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U.S. Department of the Interior
Bureau of Land Management

Vale District Office
100 Oregon Strteet
Vale, Oregon 97918

July 1999

Draft Bully Creek Landscape Area Management Plan

99- 031877

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As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

BLM/OR/WA/PT-99/035+1792

I

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Vale District Office
100 Oregon Street
Vale, Oregon 97918
http://www.or.blm.gov/Vale/

Dear Public Land User:

Thank you for your continued interest in the development of a management plan for the Bully Creek Landscape Area.

As you know, this is a new an innovative approach to management at the watershed or landscape level. As such, your participation in the process is very valuable and I hope you will take the time to review this document in detail.

The Draft Bully Creek Landscape Area Management Project (LAMP) contains the plan itself and four Appendices, one of which is the Environmental Assessment (EA). Three management alternatives have been identified, described, and analyzed in the EA as a result of public suggestions received during the initial planning process. Each alternative describes a different emphasis and each addresses the Bureau's implementation of Standards for Rangeland Health and Guidelines for Livestock Grazing Management.

Each of the sections within the document has important and relevant material pertinent to the future management of natural resources in the Bully Creek Landscape area. I hope you will have the time to familiarize yourself with each section and understand how they interrelate to the project as a whole.

To assist in your understanding of this document, the staff of the Malheur Resource Area will hold another set of public meetings during the 30 day comment period. The time and location of these meetings will be announced in a few weeks. I hope many of you will be able to attend and participate in one of these meetings.

We would appreciate you reviewing the document and providing us with your written comments by August 27, 1999. If you have questions or need assistance, please contact Tom Dabbs, Multiple Resource Supervisor, at (541) 473-6212.

Thank you for your interest in the management of your public lands.

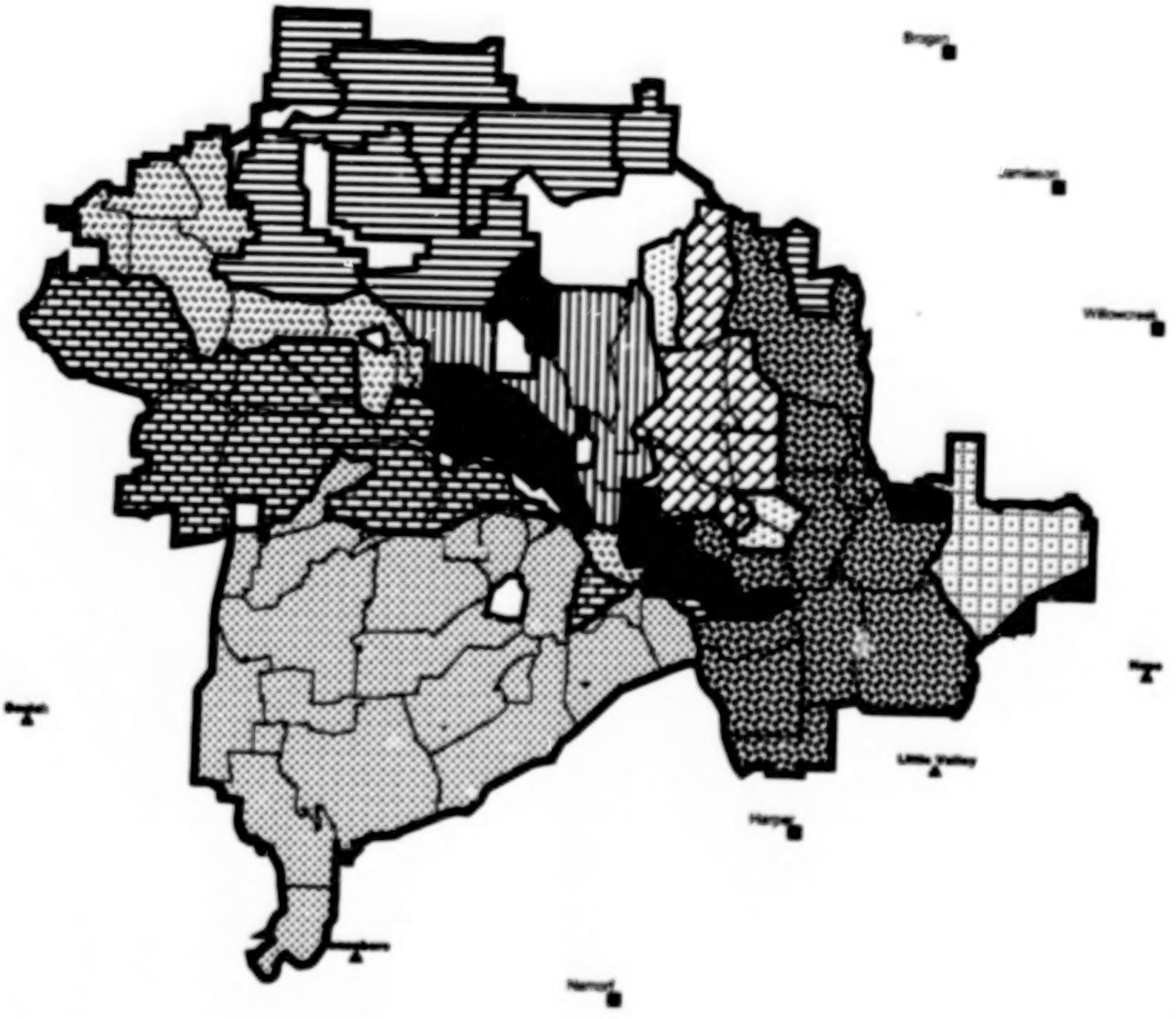
Sincerely,

Roy L Masinton

Roy L. Masinton
Field Manager
Malheur Resource Area

II

DRAFT
Bully Creek Landscape Area Management Project



June, 1999
Bureau of Land Management
Vale District Office
Malheur Resource Area
Vale, Oregon

III

ACRONYMS AND ABBREVIATIONS

ACEC	Area of Critical Environmental Concern
AD	Administrative Determination
AMP	Allotment Management Plan
AUM	Animal Unit Month
BCWC	Bully Creek Watershed Coalition
BLM	Bureau of Land Management
C	Custodial allotments
CFR	Code of Federal Regulation
DRFC	Desired Range of Future Condition
EA	Environmental Assessment
EIS	Environmental Impact Statement
FARD	Functioning At Risk Downward
FARN	Functioning At Risk Not Apparent
FARU	Functioning At Risk Upward Trend
FFR	Fenced federal range
FLPMA	Federal Land Policy and Management Act
FY	Fiscal year (October 1 through September 30 annually)
GWEB	Governor's Watershed Enhancement Board
HMA	Herd Management Area
HUC	Hydrologic unit code
I	Improve allotments
ICBEMP	Interior Columbia Basin Ecosystem Management Project
ID	Interdisciplinary
IMP	Interim Management Policy
LAMP	Landscape Area Management Project
M	Maintain allotments
MOWC	Malheur-Owyhee Watershed Council
MFP	Management Framework Plan
NEPA	National Environmental Policy Act
NF	Non-functioning
NRCS	Natural Resources Conservation Service
ODA	Oregon Department of Agriculture
ODEQ	Oregon Department of Environmental Quality
ODFW	Oregon Department of Fish and Wildlife
OR	Oregon
PFC	Proper Functioning Condition
PL	Public Land
PV	Private
RAC	Resource Advisory Council
RNA	Research Natural Area
RPS	Rangeland Program Summary
SEORMP	Southeastern Oregon Resource Management Plan
SRH	Standards for Rangeland Health
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
USFWS	U.S. Fish and Wildlife Service
VDMP	Vale District Monitoring Plan
VRM	Visual Resource Management
WQMP	Water Quality Management Plan
WSA	Wilderness Study Area
WSRS	Wild and Scenic River System

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BULLY CREEK
LANDSCAPE AREA MANAGEMENT PROJECT (LAMP)

1.0 INTRODUCTION

The Bully Creek Landscape Area Management Project (LAMP) within the Malheur Resource Area, Vale District, Bureau of Land Management (BLM), represents ground-level resource planning for public land consistent with the management direction of two larger, broad-scale planning documents. These two documents are the *Interior Columbia Basin Ecosystem Management Project* (ICBEMP) *Eastside Draft Environmental Impact Statement* (USDA/USDI 1997) and the draft *Southeastern Oregon Resource Management Plan/Environmental Impact Statement* (SEORMP/EIS) (USDI/BLM 1998b). When all phases of planning have been completed, there will be three levels of planning documents: (1) ICBEMP covering a multi-state region; (2) SEORMP/EIS at the sub-regional level in southeastern Oregon; and (3) LAMP at the landscape (subbasin) level. This LAMP incorporates the science, best management practices, and intent identified in both upper levels of the broad-scale planning documents. The LAMP does not reiterate the findings or analysis already presented in those documents, but will reference pertinent sections of those documents, as necessary, for supporting text.

Since this LAMP precedes the final publication of ICBEMP (USDA/USDI 1997) and SEORMP/EIS (USDI/BLM 1998b), these are not the decision documents driving BLM's recommendations and subsequent decisions regarding management of natural resource values within the Bully Creek landscape area. As a result, the LAMP relies on the analysis of significant impacts and management direction and is consistent with the *Ironside Management Framework Plan* (USDI/BLM 1980a, 1980b) and the *Rangeland Program Summary* (USDI/BLM 1982). This LAMP is developed only for public land administered by the BLM within the Bully Creek landscape area.

1.1 Purpose and Need

The purpose for developing the LAMP is to (1) assess ecosystem and resource values such as water quality and quantity and riparian, aquatic and upland habitats on a broader watershed-based scale than the traditional allotment and pasture levels; (2) coordinate planning and project development with the Bully Creek Watershed Coalition (BCWC) and the Malheur-Owyhee Watershed Council (MOWC) who have written management plans for private land within the same landscape area; and (3) address known criteria in one document to build efficiency into the planning process and focus limited staffing and funding to on-the-ground actions.

The need for developing the LAMP is to comply with laws, mandates, regulations, policies and Executive Orders in directing multiple-use management on public land. Among these directives is the need to (1) develop Water Quality Management Plans (WQMPs) and meet Oregon Department of Environmental Quality (ODEQ) standards for water quality (ODEQ 1997) in compliance with the Clean Water Act; (2) implement the *Standards for Rangeland Health and Guidelines for Livestock Grazing Management* (SRH) (USDI/BLM 1997); and (3) conduct allotment evaluations and address livestock grazing through the Allotment Management Plan (AMP) process. In addition, several broad-scale planning documents (ICBEMP, SEORMP/EIS), once finalized, are expected to contain specific requirements for their implementation including *Subbasin Review and Ecosystem Analysis at the Watershed Scale* (USDA/USDI 1997).

Table 1 shows the components and criteria of various plans and evaluations addressed by this LAMP.

Table 1. Components and Criteria of Various Plans and Evaluations addressed in the LAMP

WATER QUALITY MANAGEMENT PLAN	ALLOTMENT EVALUATION RANGELAND HEALTH ASSESSMENT	SUBBASIN REVIEW	ECOSYSTEM ANALYSIS AT THE WATERSHED SCALE
Condition Assessment Problem Description	Characterize Allotments, Authorized Use Describe Current Resource Conditions	Characterize the Subbasin	Characterize the Watershed Describe Current and Reference Conditions
Identify Goals/Objectives	Identify Standards/Objectives/Issues	Identify Issues at Broad and Smaller scales, and Subbasin Scale	Identify Key Issues and Questions
Identify Responsible Participants Public Involvement	Involve Permittees/Public	Form Interagency Team	Interdisciplinary Team/ Interagency Team Tribes/State/Local Govt/Public
Monitoring /Evaluation	Synthesize/Interpret Data Determine if: Rangeland Standards, Management Objectives are Being Met Determine Cause of Non-attainment		Synthesize/ Interpretation of Information
Develop Recommendations	Develop Recommendations		Develop Recommendations
Timeline for Implementation		Prioritize Activities	Priority Setting

Source : Malheur Resource Area Interdisciplinary Team, Vale District BLM, 1998.

Within the landscape area, there are 12 I (improve) and M (maintain) allotments that have approved AMPs. The LAMP would describe new grazing schedules for these 12 allotments plus the 8 C (custodial) allotments within the LAMP area.

In accordance with the grazing regulations (43 CFR 4180), BLM is required to implement the SRH and Guidelines for Grazing Management as developed for Oregon and Washington (USDI/BLM 1997) by the Southeast Oregon Resource Advisory Council (RAC). The RAC identified five standards (see Table 2) that define minimum resource conditions to be achieved and maintained for public rangelands.

Table 2. Standards for Rangeland Health

Standard 1	Watershed Function-Uplands	Upland soils exhibit infiltration and permeability rates, moisture storage and stability that are appropriate to soil, climate and landform
Standard 2	Watershed Function Riparian/Wetlands Areas	Riparian-wetland areas are in proper functioning physical condition appropriate to soil, climate and landform.
Standard 3	Ecological Processes	Healthy, productive, and diverse plant and animal populations and communities appropriate to soil, climate and landform are supported by ecological processes of nutrient cycling, energy flow and the hydrologic cycle.
Standard 4	Water Quality	Surface water and groundwater quality, influenced by agency actions, complies with State water quality standards.
Standard 5	Native, T&E Locally Important Species	Habitats support healthy, productive and diverse populations and communities of native plants and animals (including special status species and species of local importance) appropriate to soil, climate and landform.

Source : (USDI/BLM 1997)

The Malheur Resource Area prioritized and grouped grazing allotments in the Resource Area into nine landscape areas based upon resource issues, conditions and concerns. This LAMP is one in a series of nine to be developed for public land within the Malheur Resource Area. Whenever feasible, watershed and subbasin boundaries were combined in delineating a landscape boundary. This prioritization and grouping has been reviewed by the RAC and interested publics and will allow for SRH assessment and implementation for all allotments within the Resource Area within a 10-year time frame. Assessment means the analysis, synthesis and interpretation of information, including monitoring data, to characterize the health of an allotment, pasture or other management unit and determine if these units are meeting or making significant progress toward meeting standards and are conforming to guidelines. The assessment is similar to the allotment evaluation as previously used in the rangeland management program to evaluate whether or not grazing management is meeting resource objectives. Assessment of a landscape area is a two-step process; step one is the data collection and step two is for analysis and determination of conformance with SRH. The assessment process in the Bully Creek landscape area began in 1998. The data summaries, analysis and determinations are a part of this LAMP as summarized in Appendix C. Implementation of SRH involves the following step-down process:

- evaluate the desirability of existing vegetation trends and condition
    - conduct assessments to determine if areas meet, make significant progress toward or fail to achieve SRH;
        - if failing to achieve SRH, determine if current grazing is a significant factor;
            - if current grazing is a sign. factor, take appropriate action by modifying terms and conditions of permits, authorizations and/or activity plans.

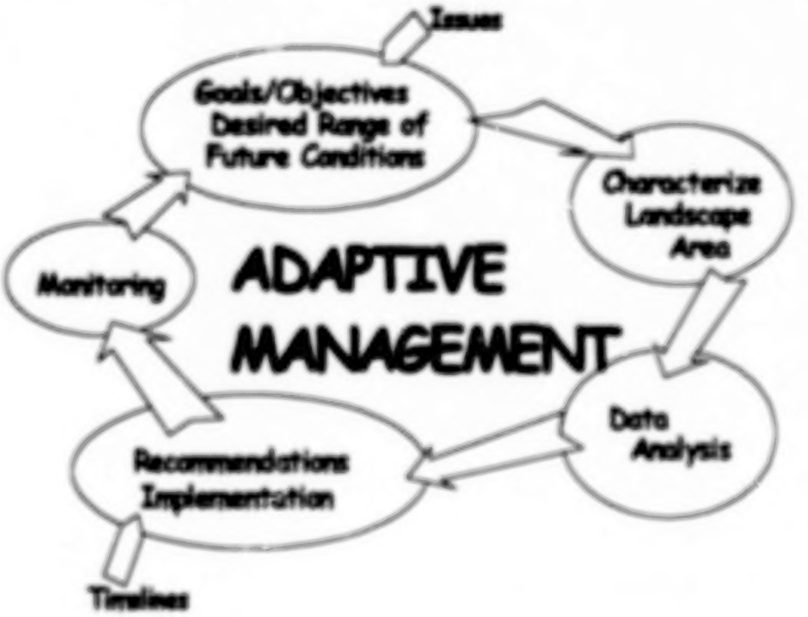
1.2 Description of the Landscape Area

In general, landscape areas are defined by combining subbasin and grazing allotment boundaries with similar issues of concern. Where allotments straddled subbasin boundaries, the allotments were included or excluded from the landscape area, depending upon issues and other management considerations. Issues of concern for the landscape area were identified in cooperation with ranchers and other interested publics. Issues identified at the landscape level would be addressed at the allotment level rather than the watershed scale. Management actions applied at this allotment level are more appropriate for rangeland improvement.

The Bully Creek landscape area is located northwest of Vale, Oregon. It includes eight watersheds in the Bully Creek subbasin and a portion of one watershed in the Lower Malheur subbasin. There are 20 grazing allotments comprising 108 pastures managed by the BLM within the landscape area (see Table 5). The landscape area consists of 386,300 acres, of which 268,800 acres are public land (see Appendix B, Map B-1).

1.3 Relevant Planning Documents

The *Scientific Assessment* (USDA/FS 1996a) and *Summary of Scientific Findings* (USDA/FS 1996b) from the draft ICBEMP (USDA/USDI 1997) provided the broad-scale science used during the landscape area assessment. This process was aided by incorporating the findings from the *Bully Creek, Willow Creek and Lower Malheur River Subbasin Review* (USDI/BLM 1998a) and the draft SEORMP/EIS (USDI/BLM 1998b). The *Bully Creek Watershed Assessment and Strategy* (BCWC et al. 1997) and the draft *Malheur Basin Watershed Action Plan and Assessment* (MOWC 1998), two documents addressing watershed management activities on private land within the Bully Creek subbasin, were consulted and referenced during development of the LAMP. The guidelines from the draft and final *Ironside Grazing Management Environmental Impact Statement* (USDI/BLM 1980a, 1980b) and the *Rangeland Program Summary, Record of Decision for the Ironside EIS Area* (USDI/BLM 1982) have also been consulted. At present, management actions are addressed under the *Malheur Resource Area Management Framework Plan*, (USDI 1979).



1.4 Adaptive Management

Adaptive management, as applied in the LAMP, can be depicted in the accompanying illustration. This is a continuing process that ensures management strategies will be adjusted to meet goals and objectives through planning, implementation, monitoring and evaluation. The process emphasizes results and makes adjustments when needed. A continual feedback loop based on new information allows for mid-course corrections to standards, guidelines and underlying assumptions in order to meet planned goals and objectives. It also provides a model for adjusting goals and objectives as new information develops.

2.0 GOALS AND RESOURCE ISSUES

Seven broad goals were identified for the Bully Creek Landscape area which relate directly to goals described in large- and mid-scale planning documents (draft ICBEMP (USDA/USDI 1997), draft SEORMP/EIS (USDI/BLM 1998b) and the two watershed assessments which address private land (BCWC et al. 1997; MOWC 1998). The broad goals which serve as a link between the larger adjoining ecosystems and the landscape area are listed below and have been addressed during various public meetings:

- Improve BLM's ability to manage natural resources on a landscape basis.
- Sustain, and where necessary, restore priority plant and animal habitats including riparian areas, priority watersheds and rangeland ecosystems.
- Emphasize the control of noxious weeds and undesirable non-native plants.
- Provide diverse recreational and educational opportunities within the capability of the ecosystems in the landscape area.
- Reduce hazardous fuels to improve the health of vegetation communities.
- Manage natural resources consistent with treaty and trust responsibilities to American Indian tribes.
- Provide a predictable, sustained flow of economic benefits within the capability of the ecosystems in the landscape area.

Stepping down from the broad goals, eight resource issues were addressed in the overall assessment of the landscape area. Although the issues are described separately, they are inherently linked to each other in terms of ecosystem management. The resource issues were identified through a series of scoping meetings, in coordination with interested and affected publics and in reviewing data and other existing and draft planning documents. The following eight issues with their specific goals and descriptions address the seven broad LAMP goals described above. They are not listed in priority order.

Issue 1: Water Quality/Quantity

Issue: BLM manages streams or stream segments where the current water quality doesn't meet the State of Oregon's water quality standards developed to be in compliance with the Clean Water Act.

Description: In the lower part of the landscape area, Bully Creek has documented algae growth and eutrophic conditions resulting in diurnal fluctuations in dissolved oxygen and pH. Bacteria has been documented in Bully Creek from Westfall to the reservoir, and high nutrient levels and possible sediment, temperature and habitat issues are also suspected throughout the area. Other streams are deficient for water temperature, pH, fecal coliform and other factors.

Goals: Improve water quality and meet state standards in compliance with the Clean Water Act. Increase natural upstream water storage for late-season use and more consistent releases for downstream needs.

Issue 2: Vegetation Composition, Structure, Diversity and Productivity

Issue: Current vegetation composition, structure, diversity and composition levels do not meet the BLM's SRH and are deficient in portions of the landscape area in meeting the forage requirements of livestock and wildlife. Portions of the landscape area also lack the cover necessary to stabilize the soils, slow surface runoff, control erosion and slow the invasion of undesirable plants.

Description: Upland vegetation provides the foundation for many resource uses of public land. Structurally and vegetatively diverse communities provide habitat for wildlife and forage for domestic animals. They also contribute to species diversity across the landscape. A healthy cover of perennial vegetation stabilizes the soil, maintains infiltration of precipitation, slows surface runoff, controls erosion, ensures clean water entering adjacent streams and enhances the visual quality of public land. Forage produced on public land is made available to grazing wildlife and livestock.

Goals: Restore, maintain or improve the diversity, distribution and abundance of native plant species and communities, as well as desirable introduced plant communities. Provide for their normal function in soil stabilization and nutrient, water and energy cycles. Maintain or restore connections between similar habitats to reduce fragmentation of specific communities.

Issue 3: Fisheries/Aquatic Habitat

Issue: Portions of streams capable of supporting fish and other aquatic species currently can not due to poor riparian habitat conditions affecting water quality standards for temperature, sediments and pollutants.

Description: The condition of fisheries habitat is related to riparian/wetland areas and stream channel characteristics. Proper functioning riparian vegetation moderates water temperatures, adds bank structure to reduce erosion and provides overhead cover for fish. Floodplains with intact plant communities dissipate stream energy and store water for later release. Correct stream channel characteristics provide rearing areas for juvenile fish. Water quality factors such as temperature, sediment and dissolved oxygen affect fisheries habitat.

Goals: Restore, maintain or improve habitat to provide for diverse and self-sustaining communities of fish and other aquatic organisms. Manage habitat to maintain distribution of native species allowing for natural dispersal and movement between watersheds and promote species interactions that are part of the ecosystem processes while providing opportunities for recreational fishing.

Issue 4: Riparian/Wetland Areas

Issue: Portions of perennial and intermittent streams and associated riparian vegetation are not functioning properly according to BLM SRH.

Description: Riparian/wetland areas are locally important since many watersheds in the landscape area currently lack perennial streams. Those existing perennial and intermittent streams are limited in their potential to improve due to past and current grazing practices, increased elk populations, topography, shallow soils, flash floods and low precipitation. Many streams with perennial or intermittent flow do not provide adequate vegetation to maintain and/or support a properly functioning riparian habitat. Streams supporting redband trout and other native fish require proper functioning riparian ecosystems to meet state water quality standards for temperature, sediment and pollutants.

Goals: Ensure riparian/wetland areas achieve, at a minimum, proper functioning condition (PFC) to dissipate energy from high water flows, reduce erosion, improve water quality, filter sediment, improve floodwater retention and groundwater recharge, provide habitat for fish and wildlife populations and support greater biodiversity.

Issue 5: Weeds

Issue: Class A weed infestations continue to expand within the LAMP area, deteriorating resource values and hindering the reestablishment of native plant species.

Description: Public and private land within the Bully Creek landscape area exhibit moderate to high vulnerability to weed invasions. Weed dispersal has been intensified by both human and environmental factors (vehicles, road system, livestock, wildlife, flooding, irrigation water, etc.). Establishment and dominance of weedy species typically results in deteriorated resource values. Management actions which resolve other resource issues (prescribed fire or juniper invasion) are complicated by the increased short- and long-term susceptibility of treated land to weed invasion.

Goal: Reduce the occurrence of new noxious weed infestations across the landscape and reduce or eliminate existing populations of Class A weeds.

Issue 6: Wildlife Habitat

Issue: Portions of the LAMP area do not meet the SRH for wildlife lacking the appropriate habitat composition and diversity to meet the year-long needs of wildlife.

Description: Many habitat types were and continue to be impacted by historic and ongoing activities such as grazing practices, agricultural clearing, reservoirs, fire management and human development. Today, habitat degradation of big game winter range forces deer, pronghorn and elk to move onto private agricultural land resulting in economic losses. Several species currently on Federal and state lists, including sage grouse, occur within the landscape area. BLM cooperates with ODFW, USFWS, adjoining landowners, livestock permittees and others to maintain or improve wildlife habitat for all species.

Goals: Maintain or restore habitat for healthy, productive and diverse populations of wildlife, ensuring habitat requirements for viable populations are maintained and not adversely impacted by management actions. Emphasize management of Federally listed, proposed and candidate species, state listed species, BLM sensitive species and species protected by international treaties and species used for recreational and subsistence activities. Work with Oregon Department of Fish and Wildlife (ODFW) to develop population goals for resident species consistent with habitat potential and with U.S. Fish and Wildlife Service (USFWS) on habitat management for Federally listed, proposed and candidate species.

Issue 7: Juniper Invasion

Issue: Juniper has expanded beyond pre-fire suppression patterns decreasing forage and habitat for wildlife and livestock and potentially increasing soil erosion.

Description: BLM and other collaborators are concerned with expanding juniper acreages, increased erosion potential, loss of moisture in deeper soils and decreased rangeland forage and habitat for sage grouse, pronghorn and livestock. Juniper removal is complicated by control costs and an uncertain amount of economic benefit. Removal often results in increased weed invasion and erosion potential following fire, mechanical control or chemical application. In addition, there are unknown effects from some control activities to wildlife populations such as sage grouse (due to a loss of shrub communities) and big game species which are of high value to local residents.

Goal: Reduce juniper in areas where it has expanded beyond pre-suppression distribution.

Issue 8: Recreation

Issue: Increased numbers of people are using the public land for recreation straining some resources and causing conflicts with traditional uses.

Description: Within the landscape area, local people, including the Tribes, feel strongly about the importance of public land for recreation and subsistence fishing/hunting. The close proximity of Bully Creek Reservoir, a large irrigation reservoir on non-BLM land, allows easy access to trout and warm water fisheries. Of lower value are existing rangeland stockponds and small streams on public land. Hunting big game and upland game birds is also highly valued. Common species include mule deer, elk, pronghorn, chukar and sage grouse on public land and pheasant, quail and waterfowl on private land. Observing wildlife is a growing interest with focus on big game and bird species.

Goals: Create diverse recreational opportunities for local and regional publics. Balance recreation and subsistence opportunities for all users, while restoring and protecting natural resources and ecosystem health.

3.0 DESIRED RANGE OF FUTURE CONDITIONS

The Desired Range of Future Conditions (DRFCs) for the landscape area are described in the draft SEORMP/EIS (USDI/BLM 1998b). The DRFCs portray the land, resource and socio-economic conditions expected in 50 to 100 years as the LAMP objectives (described below) are achieved. The intent of these objectives is to move the ecosystem and its components towards DRFCs where there are identified deficiencies or to maintain current conditions at DRFCs.

4.0 LAMP OBJECTIVES

There are five primary objectives for the Bully Creek LAMP which address the prominent resource concerns within the landscape area. Those issues and resources not specifically addressed by a primary objective (e.g., special status species) are covered by habitat needs, or by more site- specific objectives applied on an allotment and/or pasture basis. Planned results are expected within a 10-year time period. Achieving the objectives would be measured by maintaining static trends (at a minimum) in habitats meeting the SRH and/or obtaining upward trends in habitats not meeting these standards.

RIPARIAN/WETLAND VEGETATION COMMUNITIES

Maintain (if meeting SRH) or improve (if not meeting SRH) riparian vegetation, habitat diversity, and associated watershed function to achieve healthy and productive riparian/wetland areas and achieve water quality standards for beneficial uses as established by ODEQ.

INDIVIDUAL SEEDINGS

Based on site-specific circumstances, one or more of the following objectives would be applied to a seeded area:
1. Improve the productivity and vigor of the non-native seeding while maintaining the structural composition and improving species diversity of vegetation communities consistent with DRFCs identified in the land use plan.
2. Improve the productivity and vigor of the non-native seeding while improving the structural composition and improving species diversity of vegetation communities consistent with DRFCs identified in the land use plan.
3. Maintain the productivity and vigor of the non-native seeding while maintaining the structural composition and improving species diversity of vegetation communities consistent with DRFCs identified in the land use plan.
4. Improve the ecological condition of the non-native seeding by implementing actions to enhance

the dominance of native perennial grass species while maintaining the structural composition and improving species diversity of vegetation communities consistent with DRFCs in the land use plan.

UPLAND VEGETATION COMMUNITIES

Maintain (if meeting SRH) or improve (if not meeting SRH) the health, structure and diversity of upland native vegetation within site capabilities.

WEEDS

Control proliferation of existing noxious weeds on an annual basis.

WILDLIFE

Maintain (if meeting SRH) or improve (if not meeting SRH) wildlife habitats, ensuring spacial distribution of native plant communities and animal habitats across the landscape with a density and frequency of species suitable to ensure reproductive capability and sustainability.

Specific allotment and pasture management objectives are located in Appendix C.

5.0 CHARACTERIZATION OF THE LANDSCAPE AREA

5.1 Topography/Climate

The Bully Creek Landscape Area varies from 2,500 feet in elevation near Bully Creek Reservoir to 6 400 feet on Cottonwood Mountain. The fringe of mountains to the west, including Ironside Mountain and Castle Rock, collects moisture deposited in the form of snow and rain from fall through early spring, resulting in mesic conditions at high elevations. Annual precipitation ranges from 14 inches in the western portion of the landscape area to 8 inches at the eastern edge, reflecting the more arid conditions at low elevations.

5.2 Air Quality

Air quality in the landscape area is good (airshed rating is Class II) with prevailing westerly winds. Dust and smoke occasionally impact air quality in the landscape area. Additional information related to climate and air resources is described in the draft SEORMP/EIS (USDI/BLM 1998b).

5.3 Geology

The landscape area is situated within portions of three physiographic provinces: (1) the Blue Mountain Province in the north and northwest; (2) the Basin and Range Province in the northeast, central, and southern regions; and (3) the Snake River Plain Province in the southeast (Orr et al. 1992). Dominant rock types found over approximately 60 percent of the area consist of Miocene and Pliocene basalt flows and pyroclastic deposits (Walker and MacLeod 1991). This volcanic activity included andesitic materials on the eastern end of the landscape area. Substantial amounts of Miocene-Pliocene rhyolitic material are also found, including a large domal complex in the southwestern portion of the area in the vicinity of Swamp and Gregory Creeks. A large deposit of Pliocene tuffaceous lake sediments is concentrated in the central region near Westfall. These deposits include tuff, breccia, fluvial tuffaceous sandstone, siltstone and mudstone, air-fall and water deposited vitric ash, fluvial sandstone, conglomerate and diatomite (Brooks and O'Brien 1992). Some of these sediments are capped by basalt flows and pyroclastic deposits or show evidence of hydrothermal activity. In addition to igneous formations, the extreme western end of the area is made up of pre-Tertiary metamorphic formations. The metamorphic rocks are mostly shale with high amounts of lime and silica.

5.4 Energy and Mineral Resources

Energy and mineral resources known or suspected to occur in the landscape area consist of geothermal resources, diatomite, hot-springs gold/mercury, porphyry copper-gold-molybdenum, vein gold, uranium, oil, gas and a variety of mineral materials. Intermittent mineral exploration has occurred in the area for over 80 years, mainly involving attempts to develop the low quality diatomite deposits situated in the southeastern portion of the area between Harper and Westfall. There has been little interest in any mineral resources other than three deep (>1,000 feet) geothermal exploration wells near Bully Creek Reservoir, "paver" rocks from Cottonwood Mountain and the occasional removal of small quantities of gravel from a BLM-designated community pit along Indian Creek.

At present, there are over 100 mining claims within portions of five allotments (see Appendix A, Table A-1). All have been located for diatomite and are contained in four separate blocks. Active exploration/development is occurring on only one block of claims, the E/B group, which is operating under a current Notice of Operations (less than 5 acres of surface disturbance); at present, only the Bully Creek Seeding/Allotment #2 is affected. Four other Notices are currently on file with BLM; three have been abandoned, including the claims, and the fourth has been inactive for several years. Given the past mining history of the landscape area, energy and mineral exploration/development activity is not expected to change significantly in the future.

5.5 Soils

Soil information in the landscape area, especially on the higher elevation rangeland, is limited. Soil surveys have focused mainly on irrigable land (Lovell et al. 1969; Cox and Stoneman 1977; Malheur County Planning Office 1978; Lovell 1980), and a third order survey has yet to be completed. Other planning documents use existing surveys in combination with professional observations to derive soil information for the entire area (Malheur County Planning Office 1981; BCWC et al. 1997; MOWC 1998). Soils in the area have derived mainly from sedimentary deposits and volcanic activity (Lovell et al. 1969). Sedimentary deposits weather into sandy- or fine-textured, highly erosive soils. Volcanic rocks weather into various textured soils including some which are sticky and fine-textured. The arid climate and high silica and calcium carbonate content of many of the soils creates a cemented or indurated layer or hardpan (Soil Survey Staff 1998). Expression and thickness of these hardpans increases with distance from a stream and floodplain. In general, more soil development tends to occur on the uplands than in the floodplains and terraces.

Climate influences soil moisture regimes which vary from aridic (Soil Survey Staff 1998) conditions in lower elevations (east) to xeric conditions in higher elevations (north and west). Soil temperatures range from mesic in the east, to frigid in the west. Climate also influences the soil types found on: (1) floodplains, alluvial deposits and terraces; (2) grass-shrub uplands, lava plateaus and dissected sediments; and (3) forested uplands (Lovell et al. 1969; Malheur County Planning Office 1978).

5.6 Vegetation

The landscape area lies within the sagebrush steppe vegetative zone within the northernmost fringe of the Owyhee Uplands physiographic province and the southernmost extent of the Blue Mountain physiographic province (Franklin and Dyress 1973). A rich mosaic of vegetative types is present within this sagebrush-dominated landscape.

Upland Vegetation Types and Patterns

In 1977, a partial soil/vegetation inventory was conducted by BLM on public land within the landscape area (USDI/BLM 1977). Soil and vegetation were classified based upon soil depth, moisture, aspect, slope and dominate grass, shrub and tree species. Identified vegetation types reflect a gradient of climate and soil from arid salt desert and annual grass communities at low elevations near Westfall to mesic, partly forested areas near the headwaters of Bully Creek (see Appendix A, Tables A-2 and A-3). This inventory was general and, for example, did not distinguish between stiff sagebrush and low sagebrush community types on similar soils and topography. The 1977 inventory was supplemented with on-site observations during the 1998 SRH assessment to identify small but important plant communities, such as the squaw apple community within the Droughty Rolling Hills and Droughty North Exposure vegetation types.

Dominant plant species found on upland sites are listed in Appendix A, Table A-4. A complete list of Vale District plants is on file at the BLM office. The relative amounts and mix of species vary, based on soil type and depth, precipitation and historic use. Upland sites in degraded condition are often characterized by having (1) few to none of the larger native bunch grasses; (2) high densities and cover of big sagebrush, gray rabbitbrush or green rabbitbrush; (3) high densities of exotic species such as cheatgrass, bur buttercup, tumble mustard, Russian thistle or whitetop; and (4) Western juniper invasion in more mesic areas (see Appendix B, Map B-2).

Riparian and Wetland Vegetation

Inventories were conducted along most major drainages in 1997 and 1998 to locate riparian areas and assess their condition based on SRH (see Appendix B, Map B-3). Stream reaches in recovering or PFC typically support tree species such as willow, quaking aspen, cottonwood and water birch or shrubby species including coyote willow, golden currant, mock orange and wild rose. Properly functioning riparian areas also contain several species of native grasses, sedges and rushes. There are stream segments that have lost or are losing native vegetation, including shrub and aspen communities in high elevations. Some riparian areas are being invaded by noxious weeds and other exotic species, indicating disturbed or nonfunctioning stream systems. A comprehensive list of riparian vegetation found in the landscape area is on file at the BLM Vale District Office.

Modified Vegetation Communities

During the 1960's, the BLM initiated the Vale Project which proposed specific treatments for halting range deterioration (Heady and Bartolome, nd). Prior to 1962, no more than 0.1 percent of the rangeland in the Vale District (6.5 million acres) had received range improvement treatments which included about 30,000 acres of brush control by spraying, plowing and seeding and seeding after wildfires. The selection of sites for treatment was based upon the potential for improvement. Between 1962-1973, approximately 16,500 acres within the landscape area were sprayed with herbicides to kill sagebrush and release native grasses or were seeded with crested wheatgrass. Sagebrush has reestablished to varying degrees in all crested wheatgrass seedings in the landscape area; however, most of the treated areas still have reduced perennial grass and forb understories. Other modified communities include high elevation areas where fire suppression has resulted in western juniper expansion onto range sites. Riparian communities have lost many aspen and willow stands. Reason for these losses include the encroachment of western juniper and exotic weeds as a result of heavy grazing by livestock and wildlife, reduced fire frequency and downstream agricultural practices affecting the hydrologic function of streams.

Special Status Plant Species

Few comprehensive plant inventories have been conducted in the landscape area. Several minor inventories were concentrated in the diatomaceous ash deposits between Harper and Westfall. There are two BLM tracking species listed in the Oregon Natural Heritage Program's guide (1997): the ochre-flowered buckwheat and Malheur cryptantha. A new species of groundsel may have been discovered in 1998 in Mesa Pasture of Allotment #2. No proposed or listed threatened or endangered plant species and no Federal candidate plant species being considered for listing under the Endangered Species Act have been identified.

5.7 Weeds

Although a variety of weeds occur in the landscape area, an extensive inventory has not been conducted to determine the number of species or the extent of weed invasion. Many annual weeds have become naturalized in the landscape area and are beyond the scope of any control effort. Russian and spotted knapweed are the species with the highest priority for control known to occur in the area. Russian knapweed is well established near Hanna Station and Becker Ranch and is radiating along the network of secondary roads. Small isolated sites with spotted knapweed have been found along the road system from Sheep Rock Springs to Puckett Creek and along South Bully Creek Road. Whitetop is considered a low priority noxious weed due to its abundance; however, it is controlled when found in isolated spots within previously non-infested areas. This species is well established in riparian and upland sites at all elevations, especially around ranches and old homesteads. A list of weed species in and surrounding the landscape area is found in Appendix A, Table A-5. Noxious weed management guidelines are found in various environmental documents and statewide strategies (USDI/BLM 1985, 1987, 1989, 1994).

5.8 Fire History and Management

Fire regimes within the landscape area have been largely influenced by weather patterns, available fuel, and the presence of people during the critical fire season. The amount of available fuel is the only factor directly or indirectly impacted by BLM management actions. Management practices, such as wildfire suppression and livestock grazing, change vegetation distribution, composition and structure on both rangeland and forested sites and alter natural fire regimes.

Decreased fire frequency at high elevations in the landscape area has caused conifer encroachment at forest-steppe boundaries and higher tree density in former savanna-like stands of juniper and ponderosa pine. The density of shrubs in mountain big sagebrush communities has increased at the expense of grasses and forbs. Similarly, reduced fire frequencies at mid-elevations resulted in higher coverage of Wyoming big sagebrush and reduced grasses and forbs in the understory. Western juniper has increased in some of these mid-elevation areas, but at a slower rate due to the reduced available moisture. In contrast, increased fire frequency in low elevations has resulted in the dominance of exotic annual grasses such as cheatgrass.

From 1980 through 1998, four wildland fires have occurred in the landscape area, burning a total of 8,000 acres (see Table 3). The fire which burned in 1997 overlapped a portion of the 1989 burn. One prescribed burn was conducted in October, 1983, in the Richie Flat Allotment/North Ridge Pasture, where 360 acres of Wyoming big sagebrush burned in a patchy configuration. An Environmental Assessment (EA) has been completed for a prescribed burn in East and West Crow Creek Pastures of the Rail Canyon Allotment (EA-OR-030-980014 - BLM 1998), with implementation of this multi-year project in 1998.

Table 3. Wildland and Prescribed Fires in the Bully Creek Landscape Area, 1980 - 1998.

Year	Type of Burn	Acreage	Allotment(s)/Pasture(s) Impacted	Allotment/Pasture #
1983	prescribed	360	Richie Flat/North Ridge	10214/02
	wildland	1,653	Willow Basin/Willow Basin Creek Willow Basin/Bully Creek Willow Basin/Fenced Federal Range	10222/07 10222/08 10222/11
1989	wildland	2,268	Allotment #2/Wildhorse	10201/04
1990	wildland	1,823	Allotment #2/Mountain Boston Horse Camp/Boston Horse Camp	10201/08 00113/01
1997	wildland	2,256	Allotment #2/Wildhorse Bully Creek/Bully Creek	10201/04 00132/01

Source : Malheur Resource Area Interdisciplinary Team, Vale District BLM, 1998.

5.9 Hydrology

Drainages in the upper elevations of the landscape area are characterized by steep mountainous side slopes, narrow canyons and high gradient streams. Low elevations are characterized by rolling hills, broad alluvial bottoms and low gradient streams. Of the 940 estimated perennial, intermittent and ephemeral stream miles in the landscape area, 535 miles (57 percent) occur on public land.

Stream flows, water quality and bank stability have been substantially modified due to a combination of factors such as fire suppression, roads, livestock, wildlife and non-native plant invasions. The lack of riparian vegetation and bank stability prevents stream systems from functioning properly and creates systems that cannot dissipate energy, filter sediment, retain soil-water and/or recharge groundwater. Streams that are not functioning properly continue to unravel, resulting in increases of water temperatures and soil erosion while decreasing vegetative productivity, habitat and water quality.

Two major peak flows from snowmelt occur between February and April, generally with the first peak flow larger but of shorter duration than the second. There are frequent summer peak flows that occur in direct response to scattered summer storms. Properly functioning streambank vegetation and stream channel characteristics are important in controlling these peak flows. High flows within streams that are not properly functioning can lead to channel incision, bank deterioration, sediment transport and increased peak flows. Many of the streams are incised as a result of the loss of soil, riparian vegetation and stream channel characteristics which have lessened the ability of the floodplain to store water.

Decreased watershed flows during mid-to-late summer can generally be attributed to climatic conditions, historic lowering of the alluvial water tables, irrigation diversions, stream bank deterioration, and removal and continued absence of riparian vegetation. The main limiting factor for lower summer flows is reduced water storage in alluvial bottoms throughout the entire system.

Reduced storage occurs in all drainages that can be characterized as containing deeply incised stream channels, floodplains and stream terraces which are discontinuous and unstable and where xeric vegetation has encroached upon subirrigated valley bottoms.

5.10 Water Quality

All waters within the landscape area that originate on public land eventually flow through private land before entering the Snake River. The quantity of water generated on public land is limited by annual precipitation, but the utility of what collects can be improved by land management practices. Water quality/quantity is expected to improve as upland and riparian ecosystems improve.

The following is a list of 303(d) listed streams as determined by ODEQ. Further information on the listing process is available in the SEORMP.

- Bully Creek, Bully Creek Reservoir to Westfall, dissolved oxygen, pH
- Pole Creek, Mouth to Headwaters, temperature

Long-term water quality data are sparse for the entire landscape area. Several streams in the landscape area have been placed on the 303(d) list. This list is a result of the 1972 Clean Water Act whereby the State of Oregon is required to identify water bodies that do not meet water quality standards. Severe water quality, resulting from non-point source pollution, has been identified in Bully Creek from Westfall to the Bully Creek Reservoir, and Pole Creek (Oregon Statewide Assessment of Nonpoint Sources of Water Pollution Report, 1988). (see Table 4). This rating impacts the beneficial uses determined for this area; specifically water quality, fisheries, aquatic habitat, and water contact recreation. Although water quality impacts have been identified for only two stream segments, other streams in the landscape area exhibit all or many of the same non-point source pollution problems.

Table 4. Non-point Source Pollution Problems, Probable Causes and Identified Uses

Non-point Source Pollution Problems	Probable Causes	Identified Uses Resulting in Probable Causes
Excessive levels of nutrient loading, turbidity, sediment, and streambank erosion. Decreased levels of dissolved oxygen and stream flow. Insufficient stream structure.	-Surface erosion. -Decreased surface permeability. Elimination of thermal cover along streams. -Structures on shores and streambanks. -Human or animal traffic (roads and trails). -Decline in alluvial water. -Changes in stream flow patterns.	General Uses: water withdrawal, base flow depletion, reservoir storage, physical alterations of the channel (channelization and/or wetland drainage), pumping of aquifers, bank filling and dredging, and placement of instream structures.
		Waste Disposal & Chemical Use: chemical application and irrigation return flows.
		Land Uses: livestock grazing, irrigated agriculture, and residential & commercial construction.

Source : (USDI/BLM 1997)

5.11 Wildlife Species and Habitat

Common wildlife species within the landscape area include mule deer, pronghorn, elk, black-tailed jackrabbits, sage grouse, meadow larks, red-tailed hawks and barn swallows. Many species such as black-tailed jackrabbits remain year-long in one area. Others, such as mule deer, elk, sage grouse and pronghorn make seasonal elevation changes in response to weather conditions (see Appendix B, Map B-4). Some species, such as barn swallows, breed locally but travel to Central or South America for winter.

BLM's management of wildlife species focuses on habitat needs and conditions. Many habitat types within the landscape area were severely impacted by historic activities such as livestock grazing, agricultural clearing, reservoirs, roads, and fire management. Some wildlife habitats are still being disrupted or diminished by ongoing activities. When this happens, as is currently the case with diminished winter big game habitat, mule deer and elk move off public land onto private agricultural property, resulting in economic losses to landowners. The BLM works with ODFW, adjoining landowners, livestock permittees and others to maintain or improve habitat for each species. Management objectives for each big game unit have been established by ODFW for mule deer and pronghorn. Forage demand for these big game species in each grazing allotment is described in the draft SEORMP/EIS, Appendix E (USDI/BLM 1998b).

Special Status Animals

Special status animals likely to occur within the landscape area are listed in Appendix A, Table A-6. These species are given priority consideration in BLM management decisions. BLM is required by law to manage land to recover populations of species listed as endangered or threatened and to manage all species to avoid the need for future listing under the Endangered Species Act.

Columbia spotted frogs, a Federal candidate species, are present in the upper part of several riparian areas. They require special habitat conditions such as deep perennial pools and either abundant emergent vegetation or floating algae mats. Bald eagles regularly winter at Bully Creek Reservoir and along the lower sections of Bully Creek. Generally, they require large trees or high cliffs for roosting, a population of either waterfowl or medium-sized fish for food, and freedom from frequent disturbances.

Due to long-term population declines in sage grouse numbers across the West the need for additional Federal protection of this species currently is being reviewed. Published studies have documented that nesting sage grouse require patchy sagebrush with a canopy cover ranging between 15-30 percent and a herbaceous understory canopy cover ranging between 3-10 percent to reduce predation rates (Wakkinen, 1990; Connelly et al, 1991; Gregg, 1992; DeLong et al, 1995). In addition to the canopy cover requirements, these studies have also documented the need for the herbaceous understory to range between 7 to 9 inches tall, as measured during the summer nesting season (March through May). Pastures within 2 miles of sage grouse leks would have these nesting habitat management standards applied.

During winter, sage grouse feed exclusively on sagebrush leaves depending on tall sagebrush that is available above the snow for forage and protection from winter weather and predators. The BLM applies the Western States Sage Grouse Guidelines (1974, 1982) to activities that could affect sage grouse habitat. Appendix B, Map 5 shows the location of wintering bald eagle habitat and the known sage grouse leks within the landscape area.

5.12 Fisheries and Aquatic Habitat

Fisheries habitat includes perennial and intermittent streams and lakes that support fish through at least a portion of the year. There are 940 miles of stream (535 miles occur on public land) and 95 surface acres of reservoir, some of which provides fisheries habitat in the landscape area. Streams across public land provide habitat for eight native fish species and several introduced non-native fishes. ODFW periodically stocks a coastal strain of hatchery rainbow trout in certain BLM reservoirs. In most of these reservoirs, spawning habitat is lacking and natural reproduction does not occur. ODFW no longer routinely stocks warm water fishes, but bass, sunfish, and catfish species have become established in Bully Creek Reservoir and probably in streams near the reservoir. See Appendix A, Table A-7 for a list of native and non-native fish species known to occur within the landscape area.

Current distribution of stream fish in the landscape area is primarily influenced by summer water temperatures and flow levels. Maximum water temperatures are significantly higher in downstream areas than at the headwaters and, consequently, cold water species such as redband trout and sculpins are restricted to higher elevations in summer. Several factors contribute to high stream temperatures: (1) summer flows can be extremely low or intermittent, and low water volumes heat up easily; (2) irrigation diversions can further reduce flow, and water returning from irrigated fields can be warmer than the source stream; and (3) scarcity of riparian canopy increases solar heating. Riparian vegetation not only shades water from hot summer sunlight, but also stores and cools subsurface water by trapping moisture and sediments in its matted root systems.

Bank stability and sediment loads also affect fish distribution. Lack of riparian vegetation has destabilized stream banks, causing accelerated erosion, channel downcutting and increased inputs of sediment. Rapid sediment deposition in Bully Creek Reservoir since its construction in 1963 attests to the high sediment load of basin streams. Fish such as trout and sculpin are intolerant of high sediment levels that bury eggs and suffocate fry.

A fish of special concern in the landscape area is the interior redband trout, the only native game species in the basin. During low flow periods, redband trout are found primarily in headwater areas in fragmented populations. Although this rainbow trout subspecies is adapted to warm, arid rangeland streams, high water temperatures in downstream reaches limit its summer distribution. Trout distribution during fall, winter and spring is less fragmented because higher flows and lower temperatures allow fish to use more stream corridors. During spring it is possible that individuals can move throughout the basin.

Known distribution of redband trout in the basin is based on a single ODFW inventory (Elle 1961) and subsequent observations by biologists. Trout occur in upper Bully Creek, upper Clover Creek, Upper and West Fork Upper Cottonwood creeks, South Fork Indian Creek, Lower Cottonwood

Creek, and possibly Reds Creek. Genetic analysis of Lower Cottonwood and South Fork Indian Creek trout indicates that hybridization with hatchery rainbow trout has occurred in these two populations (Currens 1994). Although most wild trout in Bully Creek basin exhibit the morphological and physiological characteristics of interior redband trout, it is likely that "pure" redband populations no longer exist in the basin.

Hatchery rainbow trout are stocked annually by ODFW into five BLM reservoirs (Allotment #3, Peavine, Pence Spring, South Cottonwood, and South Mountain) and occasionally Bully Creek Reservoir. Rainbow trout have escaped reservoirs and survived to spawn with native redband trout in nearby streams, generating genetically mixed trout populations with varying percentages of hybrid genes. The goal of the stocking program is to provide angler opportunities in mountain reservoirs. Anglers from Vale/Ontario and Idaho utilize this fishery, and some of the small reservoirs are locally quite popular.

Besides trout, the other cold water-dependent fish species are sculpins. Little is known about their distribution because they are secretive and rarely identified in inventories. Sculpins were found only in Upper Cottonwood Creek in 1961. Because their habitat requirements are similar to trout, they are likely confined to headwater areas where stream temperatures and sediment loads are lowest.

Other dominant native fishes in Bully Creek basin include speckled and longnose dace, bridgelip sucker, and redside shiner. Because these are warmwater species and tolerate a range of stream temperatures and turbidities, they are abundant in mainstream reaches and streams lower in the basin and overlap with redband trout and sculpin in some headwater areas. Currently, there are no management concerns with these fishes.

Streams, reservoirs and wetlands in the area provide habitat for a diversity of aquatic organisms as well as for fish. Amphibians are especially vulnerable to habitat degradation and can be impacted by loss of riparian vegetation, reduced flows, and the presence of exotic predators such as non-native fish or bullfrogs. Three native amphibians in this landscape area are listed as sensitive species (See Appendix A, Tables A-6 and A-8).

5.13 Wild Horses

There are no wild horse herd management areas (HMA's) within the Bully Creek landscape area. Wild horses may wander into the landscape area from the adjacent Hog Creek HMA but management prescriptions require the horses be returned to the HMA. An appropriate management level has been established for the Hog Creek HMA to ensure public land resources, including wild horse habitat, are maintained in satisfactery, healthy condition, and unacceptable impacts to these resources are minimized. This appropriate management level and associated monitoring and gathering of excess wild horses should also ensure that resource values within the Bully Creek landscape area are unaffected by the wild horse program.

5.14 Grazing Use, Schedules and Existing Rangeland Improvement Projects

Grazing is the predominant land use within the landscape area. Of the 20 allotments, 9 are in the I (Improve) category, 3 are in the M (Maintain) category and 8 are in the C (Custodial) category. The 20 allotments contain 108 pastures (see Table 5). These categories are designed to concentrate public funds and management efforts on allotments with the most significant resource conflicts and the greatest potential for improvement. *The Ironside Environmental Impact Statement and Rangeland Program Summary* (USDI/BLM 1980a, 1980b, 1982) described proposed grazing systems for all I and M allotments. These systems were developed and implemented through an AMP and subsequent permit or lease, in coordination with permittees and other concerned parties. Existing AMPs not only describe a grazing schedule, but specific allotment or pasture specific objectives and any rangeland improvement projects necessary to fully implement the AMP to meet resource management objectives.

Criteria for flexibility of livestock turnout prior to April 1 or extension of use beyond October 31 is identified in Appendix A, Table A-11. Pasture move dates may vary from the defined schedule up to 4 days on each side of the identified pasture move date. Move dates outside of these general limits of flexibility due to climatic conditions, exceeding identified utilization levels (see Table 7) or other factors would be considered by BLM staff in a timely manner. To be authorized, move dates outside the general limits of flexibility must be consistent with meeting resource management objectives.

Past Malheur Resource Area (MRA) planning decisions or agreements have excluded livestock from grazing public land for the specific purpose of protecting resource values or facilities from livestock impacts. Examples include, but are not limited to, identified riparian vegetation communities adjacent to streams, reservoirs, springs, and wetlands; developed water sources; special status species habitat; Areas of Critical Environmental Concerns (ACECs); recreation sites; archaeological sites; research and study plots; and administrative sites. The following exclusion areas are located within the Bully Creek landscape area : (the "No Data" entries need future management identified with options including maintaining them as exclusion areas or dropping them with recommendations for new management)

Allotment #2 (the following two exclusion areas have been combined into the Rocke Pasture)

Cottonwood Wildlife Stream Exclosure- 497 Acres
0201 Riparian Stream Exclosure - 446 Acres

Allotment #3

N. Black Canyon Pasture - Pence Spring Fence Exclosure - 2 Acres
Indian Creek Pasture - South Fork Indian Creek Spring Exclosure - No Data
W. Cottonwood Seeding - Allotment #3 Reservoir Exclosure - 11 Acres
Indian Creek Pasture - Zotto Reservoir Exclosure - 38 Acres.

Richie Flat Allotment -

E. Log Creek Pasture - Reds Creek 3-Way Upland Exclosure - No Data

Table 5. Grazing Allotments and Other Land

Allotment Number	Allotment Name	Number of Pastures	Category	Acres PL [2]	Acres PV [3]	Acres BR [4]	Acres ST [5]	Total Acres
00113	Boston Horse Camp	1	C	707	1,420			2,127
00132	Bully Creek	1	M	5,095	7,281	483		12,859
00134	Juniper Mountain	1	C	788	2,262			3,050
00144	Cow Creek	1	C	2,851	4,766			7,617
00227	Westfall	1	M	1,673	4,943			6,616
00228	Scratch Post Butte	1	C	1,012	8,542		158	9,712
00244	Post Creek Individual	1	C	816	4,292			5,108
10140	Cottonwood Creek	1	I	738	623			1,361
10141	Ferriers Gulch	1	C	354	4,232			4,586
10201	Allotment #2	20	I	48,500	7,665	371		56,536
10202	Allotment #3	30	I	77,694	15,117		94	92,905
10205	Rail Canyon	10	I	22,639	3,879			26,518
10210	Clover Creek Individual	1	C	3,459	12,937			16,396
10213	West Clover Creek	1	C	2,713	7,520			10,233
10214	Richie Flat	7	I	17,506	2,233			19,739
10215	Brian Creek	4*	I	4,817	91			4,908
10218	Buckbrush	8	I	20,067	949			21,016
10222	Willow Basin	11	I	43,455	6,542			49,997
10223	Lava Ridge	6	I	11,069	1,224			12,293
20104	West Bench	2	M	626				626
	Acreage outside allotments			2,244	19,273		618	22,135
Totals:	20 Allotments	109		268,823	115,791	854	870	386,338

Source : Malheur Resource Area Interdisciplinary Team, Vale District BLM, 1998.

Notes:

[1] Category of allotment management - C (Custodial), I (Improve), M (Maintain)

[2] Public land

[3] Private land

[4] Bureau of Reclamation land

[5] State land

* The Mountain pasture in Brian Creek Allotment has been proposed to be divided into 2 new pastures - the north and south Mountain pastures and the number of pastures in the Table 5 reflects the proposed change from 3 to 4.

Data collected during the1998 field season, along with historic data, were used to describe the existing condition of the 20 grazing allotments and their pastures (Appendix C). Currently 70 of the total 109 pastures have developed grazing systems. The remaining 39 pastures are either exclosures that are not grazed, fenced federal range not scheduled for grazing, or pastures in custodial allotments that are grazed in conjunction with private land. A listing of all existing rangeland improvement projects is contained in Appendix A, Table A-9. The allotments and pastures are illustrated in Appendix B, Map B-6.

5.15 Recreation and Visual Resources

There are no developed recreation facilities on public land within the landscape area. Dispersed hunting and associated motorized vehicle-supported camping are the primary recreation activities. The habitat types in the landscape area support wildlife populations which receive some of the greatest hunting pressures within the MRA. Other activities include driving for leisure, photography, wildlife observation, and rockhounding. Much of the nominal recreational off-road vehicle driving is incidental to hunting activities. ODFW big game data are referenced to support estimates of recreation levels on public land within the area.

The Federal Land Policy and Management Act (FLPMA) of 1976 requires the BLM to consider the effects of management actions on the visual quality of the landscape. Public land is inventoried and assigned a Visual Resource Management (VRM) class according to the relative value of the visual resources. To maintain the management objective of a VRM class, the BLM's visual contrast rating system is employed for proposed individual projects and activities to analyze and mitigate visual impacts to the existing landscape. Public land in the landscape area are currently classified as VRM Class II within the Beaver Dam Creek Wilderness Study Area (WSA) and South Fork Indian Creek study stream for the Wild and Scenic River System (WSRS) (USDI/BLM 1998b). The remainder of the landscape area is classified as VRM Classes III and IV. The upper- and lower-most reaches of the landscape area have the highest levels of visual sensitivity.

5.16 Special Management Areas

Wilderness Study Area

Nearly 18,480 acres of the 19,580-acre Beaver Dam Creek (WSA, OR-3-27) lies in the western portion of the landscape area, while the remaining acreage extends west of the landscape area boundary (see Appendix B, Map B-7). It was designated a WSA by the BLM in 1980 as a result of a Congressionally mandated wilderness review program. Until Congress decides to designate Beaver Dam Creek as a Wilderness Area or release all or a portion of the WSA, BLM manages the WSA in accordance with the agency's Interim Management Policy for Land Under Wilderness Review (IMP, USDI/BLM 1995) so as not to impair its suitability for preservation as wilderness. If designated a Wilderness Area, the primary and secondary wilderness values of the WSA will be preserved and protected. These values include naturalness, outstanding opportunities for solitude, primitive and unconfined recreation, juniper steppe woodland areas, a variety of vegetative communities, and certain non-game and game species. Within the landscape area, portions of three grazing allotments overlap the WSA (see Table 6). Under current BLM management direction, livestock grazing would continue in a WSA or Wilderness Area. Existing rangeland improvements within the WSA include livestock fencing, four developed springs, and one reservoir. Motorized equipment is permitted for maintenance of developed springs and the reservoir within the WSA if determined by BLM to be the minimum tool necessary to accomplish the work.

Table 6. Grazing Allotments Associated with the Beaver Dam Creek WSA

Allotment/Pasture	Allotments/Pastures Associated with the WSA (Acres)			Public Land Acreage of WSA by Allotment/ Pasture
	PL [1]	PV [2]	Total	
Rail Canyon	22,639	3,879	26,518	6,975
Lost Creek FFR	824	1,605	2,429	394
Kitten Canyon	6,115	78	6,193	4,872
West Chastain	3,019	628	3,647	1,709
West Clover Creek				
West Clover	2,713	7,520	10,233	394
Willow Basin	43,455	6,542	49,997	11,109
Willow Basin	9,005	86	9,091	1,622
Bully Creek	10,015	1,026	11,041	8,366
FFR (09)	2,751	2787	5,538	57
FFR (11)	1,104	983	2,087	1,064

Source : Malheur Resource Area Interdisciplinary Team, Vale District BLM, 1998.

Notes: [1] PL - public land [2] PV - private

Additional information regarding the Beaver Dam Creek WSA is in *Oregon Wilderness Final Environmental Impact Statement* (USDI/BLM 1989) and *Oregon Wilderness Study Report* (USDI/BLM 1991).

Areas of Critical Environmental Concern

Two areas identified as potential Areas of Critical Environmental Concern/Research Natural Areas (ACECs/RNAs) have been described in the draft SEORMP/EIS (USDI/BLM 1998b) (see Appendix B, Map B-7). North Ridge Bully Creek ACEC/RNA would include 1,569 acres (Draft SEORMP/EIS, Alternative C) in the Richie Flat Allotment/North Ridge Pasture. The relevant and important values for which the ACEC has been proposed are the excellent representations of a big sagebrush/Thurber needlegrass community, big sagebrush/threetip sagebrush/Idaho fescue community and sage grouse and their associated habitat. South Ridge Bully Creek ACEC/RNA would include 841 acres (Draft SEORMP/EIS, Alternative C) predominantly in the Richie Flat Allotment/South Ridge Pasture with a small corner in the northeastern part of Lava Ridge Allotment. The relevant and important values for which the ACEC/RNA has been proposed are the excellent representations of a big sagebrush/Thurber needlegrass community, big sagebrush/squaw apple/Idaho fescue community and the associated habitats for sage grouse and loggerhead shrikes.

Wild and Scenic River System (WSRS)

There are no designated components of the national WSRS within the landscape area. BLM has determined a 2 mile study segment of South Fork Indian Creek is eligible for possible inclusion in the WSRS with a tentative river classification of wild. The suitability evaluation of this stream segment for possible designation is currently being conducted in the Draft SEORMP/EIS

(USDI/BLM 1998b) which describes the segment as non-suitable under Alternative C. Additional information can be found in case files at the BLM Vale District Office.

5.17 Socio-Economic Values

Public land in the landscape area is managed for a wide array of social and economic benefits for local, regional and National publics. Within the landscape area, livestock forage has a high economic value. Public land produces forage supporting approximately 43,000 animal unit months (AUMs) of active use and 5,000 AUMs of suspended use. As of 1994, the active AUMs supported 3.6 percent or approximately 5,100 beef cattle of the estimated 170,000 beef cattle in Malheur County (USDI/BLM 1998b). Livestock sales generated an estimated $1.8 million dollars of the $50.3 million dollars in Malheur County. The BLM recognizes the importance of custom and culture, and the need to balance these values while ensuring the sustainability of multiple resources.

Water production, storage and transport are important functions of the landscape area for ecosystem health and for local water users with an average of 38,800 acre-feet of water produced per year (BCWC et al. 1997). Within the LAMP area, public land comprises about 70 percent (268,800 acres of the total 386,300 acres) of the land mass and a corresponding amount of the water generated each year. Several thousand acres of irrigated farm and pasture land are located in the landscape area and are supported by flood irrigation, wells or small reservoirs.

Recreation opportunities (hunting, fishing, dispersed camping and various other day-use activities) are important locally and regionally. These kinds of recreational opportunities are not unique to the Bully Creek landscape area although the area provides a relatively uncrowded place to enjoy them. The primary users come from local communities but regional visitors, especially those from the Boise area and the Willamette Valley, are increasing.

5.18 Cultural Resources

Prehistoric

The Native people of the Northern Great Basin practiced their ancestral lifeways into the 19th century and were heirs to an extremely ancient cultural tradition. Their technology was effective and efficient, utilizing many multi-functional, light-weight and expendable tools. Gathering activities are attested to by digging sticks, carrying baskets, and milling stones, and hunting is represented by the atlatl and dart, bow and arrow, stone projectile points, stone knives and scrapers. Cultural resources associated with the prehistoric use of this project area consists of rock art; rock shelters; rock structures (cairns, alignments etc.); habitation sites around springs; small camps at stream-side meadows and on alluvial deposits at junctions of tributary streams; quarries of fine-grained basalt, obsidian, chalcedony and jasper; flaking stations on high points with good vantage; and sacred sites.

Historic

Cultural resources associated with the historic use of this area are tied to landforms as transportation corridors: wagon roads, historic homesteads, early irrigation project features, early mining activity areas, and remains of stage and telegraph stations. Exploration into this area by white Europeans began in the early 1830's. In 1845, Stephen Meek guided a train of 214 wagons up the Malheur River into central Oregon. The route of Meek's Cutoff crosses through the landscape area, heading west from Vale to Harper, then north to Westfall and continuing westward. When miners searching for gold in the area were unsuccessful, they turned to farming and livestock production, particularly in the lower valleys, grassy hills and the many drainages that eventually flowed into the Malheur River. The Ontario to Burns Freight Road, in operation from 1844-1913, crossed through the landscape area going northwest out of Westfall. Hanna Stage Station is located on this road.

In 1872, the Malheur Indian Reservation was established at Fort Harney. Originally the reservation covered 1,778,560 acres and contained grazing land. The western half of the landscape area is located within the old treaty boundaries of this reservation. Since 1883, all of these land, except 320 acres on which the old military post of Camp Harney stood, were restored to public land.

During the 1880's, small communities were established near reliable water sources, and during the 1890's, production of both cattle and sheep prospered. A rapid increase in population occurred in the northern part of Malheur County between 1930 and 1950 as a result of the development of the Vale and Owyhee Irrigation projects.

5.19 Paleontology

At present, there are no identified locations of fossil flora or fauna within the landscape area. However, the exploration for fossil localities has been limited, and would probably be confined to Pliocene, Miocene or Pleistocene age soils. It may be likely that sediments associated with old lake beds may contain fish or other marine animal remains since they have been located in similar old lake sediments at Beulah Reservoir and south of Vale.

5.20 Access

In general, all roads across public land in the landscape area are open to travel by the public unless they are closed specifically for management purposes or during an emergency(see Appendix B, Map B-3). There are no Interstate highways located within the landscape area. Approximately 3 miles of U.S. Highway 20 form the southern boundary of a portion of the landscape area. Over 20 roads across public and private land in the landscape area have been assigned a name and number by Malheur County (*Oregon State Highway Division, 1973)*.

The BLM Vale District currently holds 28 easements on portions of roads located on private land in Malheur County, half of which are open to public travel. Two other easements for administrative access on portions of roads in Malheur County are held by the BLM Winnemucca District Office. Of these, nine are located within the LAMP area; two are open to public access, while the other seven are for administrative access only. The Access subsection of the Land and Realty section of the draft SEORMP indicates that road easements are normally acquired to provide administrative access to facilitate management (Chapter 2-92). The provision of public access is listed as another purpose to acquire access easements. Critical access needs, which have been identified by the public and various government agencies, include several locations within the landscape area (USDI/BLM 1998b, Map-Land-1). A transportation management plan would be developed to guide and direct future transportation management decisions (USDI/BLM 1998b).

6.0 DATA COLLECTION AND ANALYSIS

In order to formulate management recommendations in light of the current resource condition, numerous data were collected across the Bully Creek landscape area in the summer of 1998. These data were combined with and compared to data collected in earlier years to determine vegetative health trends, identify locations of specific resource problems, and lead to management actions that would achieve the goals and objectives of the LAMP.

One or more allotment evaluations have been conducted in the past for all I and M allotments. Grazing management changes were implemented where feasible or necessary to solve identified resource problems. The most recent evaluations for the following allotments were:

1987: Brian Creek
1989: Bully Creek
1991: Lava Ridge
1993: West Bench, Allotment #3
1994: Allotment #2, Richie Flat
1995: Rail Canyon, Cottonwood Creek, Buckbrush, Westfall, Willow Basin

6.1 Data Collection

For upland pastures, including crested wheatgrass seedings, the dates and numbers of livestock grazed (actual use) have been collected for many years. Utilization of key forage grasses, including bluebunch wheatgrass, Thurbers needlegrass, Idaho fescue, and crested wheatgrass, has been evaluated yearly in most pastures following livestock removal. At least one permanent trend plot, consisting of a 3' x 3' photo plot, a 100' line intercept study (basal area cover of grasses, canopy cover of shrubs) and several photographic stations were established in the early 1970's in most upland pastures across the landscape. These 36 plots were read in 1998, many for the third or fourth time, so trends could be determined and evaluated in view of objectives over the short-term (since the last reading) and the long-term (since the first reading). Professional judgment, consisting of the evaluation of field professionals who have spent considerable time in the area, was also used to evaluate upland trend. In addition, uplands were assessed for overall physical and biotic functioning using the SRH indicators (Standards 1 and 3).

Nearly all riparian areas were assessed using the guidelines for riparian PFC (USDI/BLM, 1993) which is Standard 2 of the SRH. Portions of many streams in the landscape area have been photographed using low level aerial color infrared or true color photography. Some streams have more than one year of aerial photo coverage that can be used in determining riparian trend. Ground photo points, established at key riparian locations, were rephotographed on streams that have been studied before or established on newly identified riparian areas. Riparian trend was determined by comparing aerial photos and ground photo points as well as using professional judgment or the evaluation of the field professionals.

Water quality (Standard 4) was addressed through all of the SRH indicators. Since water quality is directly and indirectly related to the watershed function of uplands, function of riparian areas, ecological processes of uplands and wildlife habitats, improvements in the SRH will benefit water quality. Assessment of Standard 4 was done by determining if the factors contributing to not functioning properly for Standards 1, 2, 3 and 5 were affecting water quality.

Conditions of uplands for wildlife values were assessed using the SRH indicator (Standard 5). Inventories have been conducted over many years to locate sage grouse leks. ODFW provided information regarding big game species winter ranges. Big game and special status species were noted when observed during assessments of SRH, and in-house records were incorporated.

6.2 Results of Data Analysis

An interdisciplinary team evaluated all available data collected to monitor resource response to management actions on a pasture and allotment basis. Summaries of trend findings, SRH assessments for Standards 1, 2, 3 and 5, and other issues of concern (e.g., noxious weeds, juniper invasion) are found in Appendix C for each allotment and pasture. For all standards for rangeland health which fail to meet PFC, the current contribution of livestock was identified and is displayed in Appendix C. An assessment was also made of the effectiveness of management actions implemented since the last allotment evaluation.

Upland vegetation trend plots, exclusive of crested wheatgrass seedings, show that of the 36 plots present, 22 across the landscape area are moving toward current upland management objectives, and 14 are not moving toward objectives. With the exception of Richie Flat, which uniformly shows upward trends, every allotment contains pastures showing both upward trends and trends failing to meet upland management objectives. Allotment and pasture-specific summaries of trend are provided in Appendix C.

There are 16 seeded areas in the landscape area. Most have lost significant amounts of crested wheatgrass basal area cover since the early 1980's. There has been a corresponding increase in sagebrush canopy cover in this same period of time in many of these seedings, resulting in a decreasing long-term trend in these areas. However, short-term trends indicate that crested wheatgrass cover has stabilized at a new low or is now slightly increasing in nine of the pastures, while continuing to decline in five. Only two seeded pastures, those in the Richie Flat Allotment, showed strong upward trends in cover of crested wheatgrass with declining or modest gains in cover of sagebrush over the long-term. The increased shrub component in many of these seedings has enhanced their value for wildlife. Pasture-specific summaries are provided in Appendix C.

An evaluation of the actual use and utilization adjusted for climate show that the carrying capacity of most allotments is within the range of authorized use.

For Standard 1 (upland watershed function) of SRH, of the 109 total pastures, 20 pastures in 6 allotments showed deficiencies at 40-75 percent of the sites assessed and were not meeting the standard. The remaining 89 pastures are meeting Standard.1 of SRH and would continue to move towards DRFC under current grazing management practices.

For Standard 2 (riparian-wetland function), a total of 56 pastures out of 109 in all allotments were identified as having riparian resources in1998. Prior to 1998, 12 pastures had been identified as having riparian resources (Appendix B, Map 8). Forty four new riparian areas were identified in the course of the 1998 evaluations. Forty seven of the 56 total pastures were evaluated as not meeting Standard 2 for SRH. Twenty two of these 47 pastures did not meet the standard as a result of current grazing management practices while the remaining 25 pastures did not meet standard due to other factors.

Of the 210 miles of lotic riparian vegetation communities adjacent to perennial and intermittent streams identified in the landscape area, the Standard 2 assessment identified 48 miles (23 percent) of the stream reaches to be PFC and 49 miles (23 percent) to be FARU (functioning at risk-upward trend). Portions of 57 miles (27 percent) of the stream reaches were FARN (functioning at risk-not apparent trend). Thirty five miles (17 percent) were FARD (functioning at risk-downward trend) and the remaining 21 miles (10 percent) of stream reaches were NF (non-functional) where livestock use has been identified as a factor limiting attainment of function. The NF sections of streams are predominantly concentrated around a stream system in Allotment #3.

Twenty pastures out of the total 109 present were identified as containing an aspen resource. Almost all aspen stands within the landscape area are declining in health. Indications of decline include decadent and dead trees with little or no reproduction. Heavy utilization on the few reproductive shoots produced in these stands was observed at numerous sites. All monitoring methods, including ground photos, low level aerial photography and riparian evaluations, show downward trends for aspen.

For Standard 3 (ecological processes), four allotments, Allotment #2, Brian Creek, Buckbrush and Lava Ridge, showed deficiencies at more than 40 percent of the sites assessed. All allotments except Bully Creek and Cottonwood Creek showed deficiencies at one or more sites assessed for this standard.

For Standard 4 (water quality), two stream segments have been identified as showing defficiencies within the landscape area. Although water quality impacts have been identified for only these two stream segments, other streams in the landscape area exhibit all or many of the same non-point source pollution problems.

Severe water quality, resulting from non-point source pollution, has been identified in Bully Creek from Westfall to the Bully Creek Reservoir, and Pole Creek (Oregon Statewide Assessment of Nonpoint Sources of Water Pollution Report, 1988). (see Table 4). This rating impacts the beneficial uses determined for this area; specifically water quality, fisheries, aquatic habitat, and water contact recreation. Long-term water quality data are sparse for the entire landscape area.

For Standard 5 (native, T&E, locally important species), 32 out of a total of 109 pastures were identified as not meeting the standard. Eight pastures in 4 allotments (Allotment #3, Brian Creek, Willow Basin, Lava Ridge) were not meeting the standard due to current grazing management practices. The remaining 24 pastures located in the previously mentioned 4 allotments plus Bully Creek, Cottonwood Creek, Allotment #2, Rail Canyon, Richie Flat and Buckbrush were not meeting the standard due to other factors. Five of the 32 pastures did not meet standards due to both current grazing management practices and other factors. In most of the crested wheatgrass seedings, a loss of forbs and an increase of annual grasses and weeds has rendered the rangelands deficient to meet the needs of numerous wildlife species, particularly at the lower elevations. Other common problems were the increase of juniper in sage grouse habitat and poor reproduction or declines in bitterbrush or squaw apple communities important to loggerhead shrikes and mule deer.

All standards of SRH that were not met were assessed for the cause of non-attainment. Results of that assessment are found in Appendix C of the LAMP.

6.3 Coordination and Cooperation

Following data collection and analysis, all livestock operators in the landscape area had the opportunity to review data specific to their allotments. Their experience and observations frequently aided in the interpretation of the data and led to discussions on better ways to correct resource problems. Grazing systems and development of projects, shown in the Section 7 have been designed to reverse the downward trends noted above and attain SRH. Several major constraints have guided the design of grazing systems (see Table 7). Where riparian values are present, grazing during the hot season is limited. Where uplands are not meeting standards for rangeland health, periodic deferment or rest from grazing should promote healthy systems. Maximum allowable utilization levels have been identified to meet the needs of sage grouse during their critical nesting season. Utilization limits have been modified from previous activity plans to limit heavy livestock use and to better maintain the health and vigor of desirable perennial species.

Table 7. Maximum Allowable Livestock Utilization Levels

Community	Utilization [1]	Comments
Riparian	herbaceous: 6" stubble height; woody not to exceed 20% use of current year's leaders	hot season [2] and late season [3] livestock use
Upland/Native	50%	all pastures
Seedings	60%	where trend is static or upward
Seedings	50%	where trend is down
All	40%; 7-9" residue perennial grasses stubble height	within 2 miles of known sage grouse lek where livestock grazing occurs in April and May

Source : Malheur Resource Area Interdisciplinary Team, Vale District BLM, 1998.

Notes:

[1] At a minimum, utilization is measured at the end of the growing season or season-of-use; whichever comes first. Utilization is ideally measured during livestock grazing in appropriate pastures to ensure standards are met.

[2] Depending on elevation, hot season grazing typically runs from June 15 to September 30.

[3] Depending on elevation, late season grazing typically runs from September 30 to October 31.

7.0 RECOMMENDATIONS AND IMPLEMENTATION

7.1 Recommendations

Following the collection and analysis of data, all livestock operators in the landscape area had an opportunity to review and discuss those data specific to their allotment(s) with BLM management specialists. If data showed that resource concerns needed to be addressed, new grazing schedules were developed with the appropriate livestock operator(s) along with proposed watershed and rangeland improvement projects.

Recommendations (proposed decisions/new management prescriptions) are designed to move the landscape area towards meeting the defined goals, objectives and DRFCs and include a variety of management actions described in Table 8. These standardized projects and implementation techniques have all been previously described and their impacts analyzed in existing planning documents (USDI/BLM 1980a, 1980b, 1982, 1998b). The proposed projects and other actions comprise resource management options available to the BLM, operators and others to assist in restoring and maintaining the desired ecosystem function. Management actions may be modified or other actions may be described for use over the course of time depending on changing concerns, goals and objectives, or upon site-specific conditions. The implications of using other actions would be addressed prior to implementation.

Project Prioritization

Priority for implementing management actions would depend on a number of factors: (1) magnitude of resource concern, as identified in the Subbasin Review (USDI/BLM 1998a) and in subsequent data collection and monitoring efforts; (2) cooperation of adjoining landowner and/or operator cooperation; (3) public input; (4) available funding; and/or (5) staffing. All of these factors play a part in determining which management actions would be implemented in any one year. Projects (Appendix A, Table 10) and other actions recommended to address resource concerns were prioritized, and an implementation list was compiled for Fiscal Year (FY) 1999. Project priorities would be developed annually and reflected in annual NEPA compliance documentation.

Table 8. Examples of Resource Management Actions

Management Actions	Description	Applicable Guidelines and Reference
Structural and Land Improvement Projects	Brush control, seedings, fences, cattleguards, reservoirs, spring developments, wells, pipelines, wildlife guzzlers, prescribed burns.	Appendix S, Draft SEORMP/EIS (USDI/BLM 1998b)
Best Management Practices	Road design and maintenance, existing project maintenance, surface-disturbing activities, rights-of-way and utility corridors, forest management, fire suppression, prescribed burning, mining, wildlife habitat protection, noxious weed management, developed recreation.	Appendix O, Draft SEORMP/EIS (USDI/BLM 1998b)
Livestock Grazing Management		
Intensity of Grazing	Duration, numbers, season-of-use and other factors determine the intensity of grazing and its impacts. To address resource improvement, intensity of grazing (assessed through monitoring) will be the key to making adjustments in management. Utilization recommendations for the landscape area are defined in Table 7.	Appendix R, Draft SEORMP/EIS (USDI/BLM 1998b)
Flexibility Based on Range Readiness	Livestock grazing can be adjusted to result in minimal to no impacts on the growth cycle of key plant species, wildlife species, physical condition of resources and other factors. All schedules except for season long grazing may be authorized in the landscape area. Exclusion is also an option where appropriate. Livestock grazing would not be scheduled prior to April 1 unless range readiness criteria are met or allowed continue beyond October 31 unless all pasture grazing constraints are being met (see Table 7).	Appendix R, Draft SEORMP/EIS (USDI/BLM 1998)
Reduced, Increased, Suspended or Restored AUMs	Based upon resource condition and trend, as evaluated through SRH (USDI/BLM 1997) and other techniques, AUMs may be reduced, increased, suspended or restored.	Grazing Regulations Standards for Rangeland Health
Allotment Category Changes: I, M and C Allotments	If previously unknown resource concerns are discovered in an allotment, the allotment category can be changed to focus management to resolve existing or potential impacts.	BLM Policy

Management Actions	Description	Applicable Guidelines and Reference
Fenced Federal Range (FFR) Management	These are non-intensive management areas or custodial pastures where BLM does not specify livestock numbers, kinds of animals and period of use provided that detrimental impacts do not occur to public land. FFR areas consist of small tracts of public land that intermingle with large tracts on private land. Capability for grazing management is limited and little public resource values exist.	Ironside EIS
Public/Private Land Grazing Systems	Operators often graze adjoining private land in sequence with public land. Where cooperation is possible, and resource condition is known, consider incorporating private land into a grazing system.	

Source : Malheur Resource Area Interdisciplinary Team, Vale District BLM, 1998.

Table 9 shows those general management actions available to resolve issues identified during the public scoping process and to meet the LAMP management objectives. Application of these individual management solutions would depend on the need identified through the Adaptive Management process. This table also shows the rationale or purpose of these actions and the benefitting issues and objectives. See Appendix A, Table A-10, for allotment/pasture specific project proposals identified to date and Appendix C for proposed grazing schedules recommended for the landscape area.

Table 9. Management Actions - Benefitting Issues and Objectives

Management Action	Rationale for Action	Primary/Additional Benefitting Issues	Primary/Additional Benefitting Objectives
Livestock utilization levels not to exceed 40%	Leaves critical habitat component for sage grouse	Wildlife/Water Quality, Riparian, Weeds	Upland vegetation, wildlife/riparian, seeding
Livestock utilization levels not to exceed 50%	Maintains upland/ native vegetation, and allows seedings to improve condition	Vegetation (natives and seedings)	Upland vegetation, seedings/weeds, wildlife
Livestock utilization levels not to exceed 60%	Maintains seeding condition	Vegetation (seedings)	Seedings/weeds
Retain 7-9" stubble height after grazing	Leaves critical habitat component for sage grouse nesting	Wildlife/Water Quality, Riparian, Weeds	Wildlife/riparian
Retain 6" stubble height; do not exceed 20% utilization on woody vegetation	Ensures improvement and/or maintenance of riparian vegetation	Riparian, Water Quality, Fisheries/ Weeds, Wildlife, Recreation, Juniper Invasion	Riparian/weeds, wildlife
Avoid livestock use between December-March	Leaves critical habitat component for deer/antelope winter range	Wildlife/Vegetation, Weeds, Recreation	Wildlife/upland vegetation, weeds
Limit hot/late season use	Minimizes livestock grazing impacts during critical growth periods	Riparian, Water Quality, Fisheries/ Weeds, Wildlife, Recreation, Juniper Invasion	Riparian/weeds, wildlife
Restrict utilization during hot and late seasons	Minimizes livestock grazing impacts during critical growth periods	Riparian, Water Quality, Fisheries/ Weeds, Wildlife, Recreation, Juniper Invasion	Riparian/weeds, wildlife
Periodic Grazing Deferment	Ensures improvement and/or maintenance of perennial grasses	Vegetation/Weeds	Upland vegetation/weeds

Management Action	**Rationale for Action**	**Primary/Additional Benefitting Issues**	**Primary/Additional Benefitting Objectives**
Range Readiness Limitations	Ensures rangeland and riparian vegetation and soils can withstand grazing pressure	Vegetation, Riparian/Water Quality, Fisheries, Weeds, Wildlife	Upland vegetation, seedings, riparian/weeds, wildlife
Sagebrush Control	Maintains composition, structure, diversity and productivity of upland vegetation	Vegetation, Wildlife/Water Quality, Weeds	Upland vegetation, seedings, wildlife/weeds
Juniper Control	Minimizes juniper invasion while improving/maintaining soil stability and vegetative diversity	Vegetation, Juniper Invasion/Water Quality, Wildlife	Upland vegetation, riparian/wildlife, weeds
Seedings-Native	Reestablishes native vegetation and diversity	Vegetation/Water Quality, Weeds	Seedings, upland vegetation/ riparian, weeds, wildlife
Seedings-Non-native	Provides forage for livestock while diverting use away from native range	Vegetation/Water Quality, Weeds	Seedings/upland vegetation
Seedings-Forbs/Shrubs	Increases vegetative composition, structure, diversity and productivity	Wildlife/Vegetation, Weeds	Upland vegetation, wildlife/ weeds
Water Developments	Improves livestock distribution and reduces grazing pressure from riparian habitats	Riparian, Vegetation/Water Quality, Fisheries, Wildlife	Riparian, upland vegetation/wildlife
Prescribed Burns-Sagebrush	Increases vegetative composition, structure, diversity and productivity	Vegetation/Wildlife	Upland vegetation/seedings, weeds, wildlife
Prescribed Burns-Juniper	Minimizes juniper invasion while improving/maintaining soil stability and vegetative diversity	Juniper Invasion, Vegetation/Water Quality, Riparian, Wildlife	Upland vegetation/ riparian, wildlife, weeds
Prescribe Burns- Annual Rangelands/Seedings	Removes annual grasses prior to revegetation; rejuvenates seedings	Vegetation /Water Quality, Weeds, Wildlife	Seedings, upland vegetation/ weeds
Prescribed Burns-Aspen	Rejuvenates/regenerates dead and dying aspen stands	Riparian, Vegetation/Water Quality, Wildlife, Juniper Invasion, Recreation	Riparian/wildlife
Prescribed Burns-Forest	Reduces stocking density, fuels and undesirable species (juniper); maintains forest health	Vegetation/ Water Quality, Riparian, Wildlife, Juniper Invasion, Recreation	Upland vegetation/riparian, wildlife, weeds
Pasture Fences	Improves livestock distribution and protects sensitive resource values	Riparian/Water Quality, Vegetation, Fisheries, Wildlife	Riparian, upland vegetation, seedings/weeds, wildlife
Exclosure Fences	Protects sensitive resource values	Riparian, Water Quality, Vegetation, Fisheries, Wildlife, Recreation	Riparian, upland vegetation, wildlife
Fence Removal	Improves livestock distribution and protects sensitive resource values	Riparian, Water Quality, Vegetation, Fisheries, Wildlife, Recreation	Riparian, upland vegetation, wildlife
Weed Control	Prevents spread of noxious weeds	Vegetation, Water Quality, Riparian, Weeds, Wildlife, Recreation, Fisheries	Riparian, seedings, upland vegetation, weeds, wildlife

Source : Malheur Resource Area Interdisciplinary Team, Vale District BLM, 1998.

Grazing Schedules

Resource concerns by pasture are described in Appendix C. Where applicable, these concerns established generic factors or limitations placed on grazing schedules. Table 7 and Appendix A, Table A-10 explain these factors along with the utilization levels and duration descriptions. It is important to note that the duration of grazing and utilization levels are both critical factors being used to control the impacts from livestock grazing. Close attention to these factors by both the livestock permittee and the BLM would be required to ensure success in achieving the stated objectives.

Appendix C contains the recommended grazing schedules for all I and M allotments in the landscape area which would be implemented beginning in FY 2000. The schedules were developed to show resource improvement by the next scheduled analysis of monitoring data. The resource management actions contained in Table 8 were considered when developing grazing schedules. These resource management actions represent a means to attain improvement in a reasonable period of time and still address identified resource concerns. Private land in Lava Ridge and Brian Creek Allotments were included in the grazing rotation system with the operators' cooperation so both the private and public land are achieving the same objectives identified for the LAMP area.

Criteria for flexibility of livestock turnout prior to April 1 or extension of use beyond October 31 is identified in Appendix A, Table A-11. Pasture move dates may vary from the defined schedule up to 4 days on each side of the identified pasture move date. Move dates outside of these general limits of flexibility due to climatic conditions, exceeding identified utilization levels (see Table 7), or other factors would be considered by BLM staff in at the time of the request.

Move dates outside the general limits of flexibility must be consistent with meeting resource management objectives to be authorized.

Understanding resource condition across the landscape area helps in adjusting livestock pressure from one area to another, sometimes crossing allotment boundaries, to enable recovery in priority areas.

Custodial (C) Allotments

Grazing schedules for custodial allotments would remain as authorized in conjunction with private land so long as public land management objectives continue to be met. Where there are resource concerns, such as riparian, upland or wildlife habitat, specific objectives for those resources would apply. In addition, utilization standards and follow-up monitoring would be applicable. The BLM would coordinate with those operators grazing livestock in custodial allotments, to ensure their actions do not result in downward trends in resource conditions. Resource evaluations may result in allotment category or management changes. Establishing new trend plots to collect data may be required in some cases.

Existing Projects - Maintenance

There are numerous existing livestock projects across the landscape area (see Appendix A, Table A-9) which require periodic maintenance. These projects include cattleguards, fences, pipelines, water troughs, spring developments and reservoirs. Normal maintenance of these projects is expected to proceed as in the past; however, these projects may be reevaluated, and certain projects may be removed.

Proposed Projects

Projects recommended for implementation are described in the 1999 Appendix A, Table A-10. In order to take advantage of funding opportunities, some of these proposed projects will be implemented during FY 1999 with separate NEPA analysis. On an annual basis, this project list would be reviewed, modified, added or dropped. Those projects scheduled for implementation in future fiscal years would be addressed for NEPA requirements in subsequent Administrative Determinations.

Proposed projects in the Beaver Dam Creek WSA and any future proposed new management actions or projects not addressed in the LAMP EA (Table 8 or 9 of this document or in Table A-10 of Appendix A respectively) would not have met NEPA requirements and would require additional impact analysis in subsequent environmental documents.

7.2 General Implementation Guidelines

For all management actions, mitigation measures would be taken to avoid direct, indirect and cumulative adverse impacts to the following resources, or the projects would be abandoned.

Wilderness Study Areas

Projects which may occur within the Beaver Dam Creek WSA must be consistent with BLM's IMP (USDI/BLM, 1995). Additional impact analysis may be required prior to a proposed project's approval.

ACECs/RNAs

Projects which may occur within or adjacent to any designated ACEC/RNA (e.g. proposed North Ridge and South Ridge ACECs) would not conflict with the relevant and important values identified for these areas.

Threatened and Endangered Species, and Cultural Resources

Prior to any surface disturbing activities associated with implementing projects, special status species and cultural resource inventory surveys would be conducted.

Riparian Management

Projects which may occur within riparian conservation areas, as described in Appendix D of the draft SEORMP/EIS (USDI/BLM 1998b), would need to enhance riparian habitat or ensure habitats move towards DRFCs.

Wildlife Habitat

Projects which may occur within key wildlife habitats (e.g., sage grouse leks, nesting or winter habitat) would be designed to enhance identified habitat characteristics and conditions as described in Appendix F of the Draft SEORMP/EIS (USDI/BLM 1998b).

Roads

Existing vehicular ways and roads would be used, whenever possible. Any necessary off- road travel would be done in such a manner as to minimize impacts to vegetation, underlying soils, and other resources. Where determined to be needed, off-highway vehicles with large, low pressure tires would be used. Traveling through riparian areas would be avoided wherever possible.

8.0 MONITORING

To complete the adaptive management cycle, monitoring would be critical to determine whether or not recommended management actions are achieving the stated goals and objectives, and moving the landscape area towards the DRFCs. The success of restoring and maintaining ecosystem function would be implemented through management actions on a site-specific basis. The conclusions drawn from these monitoring efforts would then be evaluated at the landscape scale to determine the overall health of the area. The conclusions would also be used to make recommendations on whether to continue current management or what changes need to be made in management practices to meet goals and objectives. The results could be changes in mitigation measures, future actions, monitoring elements, objectives, standards, guidelines, or some mixture of these. The results of monitoring may lead to changes in management within the landscape area.

8.1 Monitoring Strategy

Different levels of monitoring or accelerating regular monitoring cycles may be required due to prescribed fire, wildland fire, floods, drought or other climatic conditions, administrative actions or corrections related to land status, management or trespass, and other unforseen events. All monitoring data would be promptly analyzed and applied in adaptive management. Data would continue to be available to interested or affected publics and agencies. Additional references on broad scale monitoring strategies and protocols can be found in the Appendix 3 of the Draft ICBEMP (USDA/USDI 1997).

Regular and supplemental monitoring methods would include the following (all time frames imply minimums):

Standards for Rangeland Health

SRH assessments would be conducted at a minimum of every 10 years. Assessment would include watershed function in the uplands and riparian/wetland areas, water quality, ecological processes, and habitat for native, threatened and endangered, and locally important species. Established standards and guidelines and any subsequent modifications would be consistent with indicators in the SRH (USDI/BLM 1997).

Upland Trend

Upland trend assessments would be conducted at a minimum of every 10 years and would include 3' x 3' photo trend plots, line intercept method and professional judgment as described in the *Vale District Monitoring Plan* (VDMP) (USDI/BLM 1983).

Riparian Trend

Riparian trend studies would be assessed at a minimum of once every 10 years and would incorporate aerial and surface (ground) photography. Perennial and intermittent streams in the landscape area would be flown according to protocols described in the VDMP (USDI/BLM 1983). Interpretation would follow the guidelines found in *The Use of Aerial Photography to Manage Riparian-Wetland Areas TR1737-10* (USDI/BLM 1994c). Established riparian photopoints would be retaken and evaluated. As necessary, new riparian photopoints would be established.

Herbaceous Studies

Herbaceous production studies would be conducted annually and would include utilization and actual use studies. Maximum allowable utilization levels are shown in Appendix A, Table A-7. Methods are described in the VDMP (USDI/BLM 1983). At this time, rapid assessments would be made of the adequacy of utilization levels established for sage grouse habitat needs (40 percent utilization at established transects, and 7-½ inch stubble height in nesting habitat on key grass species following regrowth).

Ocular Monitoring

Ocular monitoring would be conducted and compliance inspection forms prepared in pastures or areas of concern on an periodic basis to provide an assessment of resource conditions and compliance with management direction.

Supplemental Studies

Supplemental studies would be conducted as needed or periodically as budget and staffing permit. Examples include water quality and intensive riparian monitoring, green-line transects, habitat or bird species diversity (e.g., sage grouse habitat zone mapping in coordination with ODFW lek counts), and macroinvertebrate, erosion, and woody plant condition studies. The studies and monitoring techniques are described in the VDMP (USDI/BLM 1983), BLM handbooks and Technical references.

Weed Monitoring

Monitoring weed infestations would include the annual mapping and treatment of all known and any new knapweed infestations and Class "A" invaders until the infestation is eliminated (see Appendix A, Table A-5). Other noxious weed infestations would be treated as budget and staffing permits.

9.0 PUBLIC INVOLVEMENT

This LAMP is being developed in cooperation with the public and other local, county, state and other Federal agency representatives through scheduled public scoping meetings, public informational meetings, and during public review of this Draft LAMP. During this process, more than 120 individuals on our mailing list along with local watershed councils have received letters and copies of the bulletin, *"Flash Lights!"*, which provided information on the progress of LAMP development and public meetings announcements. Public involvement is an ongoing process which occurs prior to and during LAMP development. It provides the public a platform to address their concerns and comments on resource issues, management objectives and recommendations.

Responsible participants as defined in the Draft SEORMP, Appendix D (USDI/BLM, 1998b) and their level of involvement in this LAMP was determined by land ownership and the position and pattern of property within the landscape area. This included BLM, other local, county, state and Federal agencies and livestock operators and other affected interests within this landscape area. A list of participants is on file at the BLM Vale District Office.

10.0 MAINTENANCE OF EFFORT OVER TIME

10.1 Timeline and Estimated Costs of Implementation

The timeline for implementing the LAMP would commence with project development in FY1999 and continue for a minimum of 10 years. Although resource improvement is expected within this 10-year period of time, it may take longer to attain the DRFCs across the entire landscape area. Therefore, the timeline would be continuous. The LAMP is dynamic, and changes in direction may be required to adapt to changes in resource conditions as well as in the social and economic environment.

The cost for implementing the LAMP would vary from year-to-year, depending on project needs, available funding sources, and other issues (Table 10). Funding needs are known for FY1999. The projects listed in Appendix A, Table A-9 would be implemented in priority order until funding has been exhausted. Costs of future projects (through year 2009) are only an estimate. The number of projects and costs should gradually taper off once resources are moving towards DFRCs. Monitoring resource trends may identify additional projects.

Table 10. Estimated LAMP Implementation Costs

	FY 1999	FY 2000-2004	FY 2005-2009
Project Implementation Costs	$90,000	$300,000	$100,000
BLM Administrative Costs	$20,000	$600,000	$600,000
Total	$110,000	$900,000	$700,000

Source : Malheur Resource Area Interdisciplinary Team, Vale District BLM, 1998.

10.2 Reasonable Assurance of Implementation

The BLM is required to comply with many laws, mandates, regulations, policies and Executive Orders in directing multiple-use management on public land within the landscape area. This includes compliance with the Clean Water Act, Oregon standards for water quality, and other directives to ensure resources benefit the Nation and its economic and social needs. Management practices within the landscape area would be designed for healthy, sustainable, and functional ecosystems as described in SRH and in the Draft SEORMP/EIS (USDI/BLM 1998b).

Implementation of the LAMP would be the responsibility of the Vale District, Malheur Resource Area staff. The goal is to jointly fund (along with watershed partners, such as the Bully Creek Coalition, GWEB, and Malheur/Owyhee Watershed Council) a Bully Creek Coordinator, who would oversee project development, monitoring, reporting functions and other responsibilities required for successful implementation.

GLOSSARY

Area of Critical Environmental Concern (ACEC). Area where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect humans from natural hazards.

Arid. Without moisture, extremely dry.

Aridic (soil moisture regimes). Soils in arid climates that are dry for a large part of the year. Little leaching occurs in these soils and soluble salts accumulate in the subsurface.

Class "A" Weeds. A weed of known economic importance occurring in the County in small enough infestations to make eradication practicable -- or not known to occur, but its status in surrounding Counties or States makes future occurrence seem imminent.

Class "B" Weeds. A weed of known economic importance and of limited distribution in the County; is subject to intensive control or eradication where feasible.

Class "C" Weeds. A weed of known economic importance and of general distribution that should be subject to control as local conditions warrant.

C (Custodial) category allotment. Includes a high percentage of private land and is managed custodially while protecting existing resource values.

Desired Range of Future Condition. A portrayal of the land, resources, and socio economic conditions expected in 50 to 100 years if management objectives are achieved. This is a vision of the long-term condition of the ecosystem.

Ephemeral stream. A stream or reach of stream that flows only in direct response to precipitation. It receives no continuous supply from melting snow or other source, and its channel is above the water table at all times.

Eutrophic. designating a body of water in which the increase in mineral and organic nutrients has reduced the dissolved oxygen, producing an environment that favors plant over animal life.

Fenced Federal Range (FFR). Usually small tracts of public land, fenced into pastures with larger amounts of private land. Generally these are non-intensive management areas; however, there is some public land included in intensive management allotments (I category) which fit this definition.

Frigid (soil temperature regime). Soil with a mean annual temperature lower than 8°C and the difference between mean summer and winter soil temperatures is greater than 6°C.

Goal. The desired state or condition that a resource management policy or program is designed to achieve a goal is usually not quantifiable and may not have a specific date by which it is to be completed. Goals are the basis from which objectives are developed.

I (Improve) category allotment. Managed to improve current unsatisfactory resource conditions and will receive the highest priority for funding and management actions.

Intermittent stream. A stream or reach of stream that flows for prolonged periods when it receives groundwater discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Landscape (subbasin) level. A diverse land area made up of a group of interacting ecosystems that are repeated in similar manner throughout the area. The Bully Creek plan uses common watershed boundaries that share common resource values as the landscape boundary.

M (Maintain) category allotment. Managed to maintain current satisfactory resource conditions and will be actively managed to ensure that resource values do not decline.

Mesic. Moist.

Mesic (soil temperature regime). Soil with a mean annual temperature between 8°C and 15°C and the difference between mean summer and winter soil temperatures is greater than 6°C.

Objective. Planned results to be achieved within a stated time period. Objectives are subordinate to goals, are narrower in scope and shorter in range, and are more likely to be attained. Time periods for completion, and outputs or achievements that are measurable and quantifiable, are specified. (BLM Manual 1601)

Perennial stream. A stream in which water is present during all seasons of the year.

Proper Functioning Condition. The functioning condition of riparian-wetland areas is a result of interactions among geology, soil, water, and vegetation. Riparian-wetland areas are functioning properly when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high waterflows, thereby reducing erosion and improving water quality; filter sediment, capture bedload, and aid floodplain development; improve food-water retention and ground water recharge; develop root masses that stabilize streambanks against cutting action; develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and support greater diversity.

Public Land. Any land or interest in land owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management.

Research Natural Area (RNA). An area where natural processes predominate and which is preserved for research and education. Under current BLM policy, these areas must meet the relevance and importance criteria of ACECs and are designated as ACECs.

Standards for Rangeland Health. In accordance with grazing regulations (43 CFR, 4180) that govern how the BLM administers livestock grazing on public rangelands, five minimum resource standards have been identified to be achieved and maintained for public rangelands. These five include standards for soils, riparian areas, ecological processes (nutrient cycling, energy flow, and hydrologic cycle), water quality, and providing healthy habitat for special status plant and animals and species of local importance.

Wild and Scenic River System (WSRS). Established by the Wild and Scenic Rivers Act of 1958 to protect rivers and their immediate environments that have outstanding scenic, recreational, geological, fish and wildlife, historic, cultural, and other similar values and are preserved in free-flowing conditions. The system provides for the designation of three types of rivers: recreation, scenic, and wild.

Xeric (soil moisture regimes). Soils in Mediterranean-like climates where winters are moist and cool and summers are warm and dry.

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Table 1. Mining claims

Allotment/Number Pasture	Number of Mining Claims & Group Name (as of 2/16/99)	Status	Potential for Mineral Development
Westfall/00227	9 claims		
Westfall Seeding	9 White Mountain	No past or current activity	Low
Allotment #2/10201	37 claims		
Holding	9 White Mountain	No past or current activity	Low
	4 Tiger	No past or current activity	Low
Bully Creek Seeding	7 E/B	Active mining near Ring Butte	High
Mesa	13 E/B	No past or current activity	Low
Harper Seeding	4 E/B	No past or current activity	Low
Allotment #3/10202	29 claims		
E. Cottonwood Seeding	10 One Step	No past or current activity	Low
	10 White Mountain Natural Products	No past or current activity	Moderate
W. Cottonwood Seeding	7 E/B	No past or current activity	Low
	2 E/B	No past or current activity	Low
Richie Flat/10214	1 claim		
Richie Flat Seeding	1 White Mountain	Past exploration; currently inactive	Moderate
Buckbrush/10218	65 claims		
Buckbrush	10 White Mountain	No past or current activity	Low
Buckbrush Seeding	48 White Mountain	Past exploration; currently inactive	Moderate
	4 White Cap	No past or current activity	Moderate
Gathering	3 White Mountain	No past or current activity	Low

Table 2. Arid vegetation types (USDI/BLM 1977)

Arid Vegetation Types	Primary Species	Comments
Arid Rolling Hills	Primary shrub species are Wyoming and basin big sagebrush; primary grass species are bluebunch wheatgrass, Thurber needlegrass and Sandberg bluegrass.	Driest of the sites; occurs on shallow, loamy soils.
Droughty Rolling Hills	Occasional Idaho fescue with bluebunch wheatgrass and Sandberg bluegrass. Bitterbrush and squaw apple may be found along with big sagebrush.	Occurs on deep, loamy soils.
Droughty South Exposure Steep Droughty South	Primary grass species is bluebunch wheatgrass with a Thurber needlegrass component.	Low elevations; arid, southern aspect communities.
Droughty North Exposure Steep Droughty North	Primary grass species is Idaho fescue; bitterbrush and squaw apple occur in minor amounts with basin big sagebrush.	Mesic and loamy soil conditions at low elevations.
Scabland	Includes either low or stiff sagebrush, primarily with Sandberg bluegrass.	Shallow lithosols.
Semi-moist Bottom	Primary grass species is giant wildrye with a bluebunch wheatgrass component.	Deep, loamy soils.

Table 3. Mesic vegetation types (USDI/BLM 1977)

Mesic Vegetation Types	Primary Species	Comments
Rolling Hills	Predominantly Idaho fescue and lesser amounts of bluebunch wheatgrass with a small component of mountain big sagebrush and bitterbrush.	High elevations with deep, loamy soils.
South Exposure Steep South	Primarily bluebunch wheatgrass with an Idaho fescue compnent; little big sagebrush and bitterbrush are present.	Deep soils and relatively high precipitation even on south-facing slopes.
North Exposure Steep North	Idaho fescue with some bluebunch wheatgrass; large amounts and varieties of forbs may be present; shrubs include mountain big sagebrush, snowberry, serviceberry and wax currant.	Loamy soils.
Moist Scabland	Primarily low sagebrush and Idaho fescue with small amounts of bluebunch wheatgrass; a minor bitterbrush component may be present.	
Moist Bottom	Primarily giant wildrye; few sites remain, most having been modified by cultivation practices.	Very deep, loamy soils.
Mahogany Rockland	Overstory is curlleaf mountain mahogany and mountain big sagebrush; primary understory Idaho fescue with small amounts of bluebunch wheatgrass.	
Juniper-Pine-Bunchgrass	Bluebunch wheatgrass with some Idaho fescue, mountain big sagebrush and low sagebrush; primary overstory is sparse Western juniper and ponderosa pine.	

Table 4. Upland plant species

Scientific Name	Common Name	Arid Species	Mesic Species
TREES			
Populus trichocarpa	black cottonwood		X
Prunus virginiana	chokecherry		X
Cercocarpus ledifolius	curlleaf mountain mahogany		X
Pinus ponderosa	Ponderosa pine		X
Populus tremuloides	quaking aspen		X
Juniperus occidentalis	Western juniper		X
SHRUBS			
Artemisia tridentata ssp. *tridentata*	basin big sagebrush	X	X
Purshia tridentata	bitterbrush	X	X
Prunus spp.	chokecherry	X	X
Ribes spp.	currant	X	X
Chrysothamnus nauseosus	gray rabbitbrush	X	X
Chrysothamnus viscidiflorus	green rabbitbrush	X	X
Artemisia arbuscula	low sagebrush	X	X
Philadelphus lewisii	mock orange		X
Artemisia tridentata ssp. *vasyana*	mountain big sagebrush		X
Amelanchier alnifolia	serviceberry		X
Symphoricarpos albus	snowberry		X
Peraphyllum ramosissimum	squaw apple	X	X
Artemisia rigida	stiff sagebrush	X	
Artemisia tripartita	three-tip sagebrush	X	X
Salix spp.	willow		X
Artemisia tridentata ssp. *wyomingensis*	Wyoming big sagebrush	X	
GRASSES			
Agropyron spicatum	bluebunch wheatgrass	X	X
Sitanion hystrix	bottlebrush squirreltail	X	X
*Bromus tectorum**	cheatgrass	X	X
*Agropyron cristatum**	crested wheatgrass	X	
Poa cusickii	Cusick bluegrass	X	X

Scientific Name	Common Name	Arid Species	Mesic Species
Elymus cinereus	giant wildrye	X	X
Festuca idahoensis	Idaho fescue	X	X
Oryzopsis hymenoides	Indian ricegrass	X	X
Koleria cristata	June grass	X	X
*Poa pratensis**	Kentucky bluegrass	X	X
Poa sandbergii	Sandberg bluegrass	X	X
Stipa thurburiana	Thurber needlegrass	X	X
FORBS			
Balsamorhiza sagitatta	arrowleaf balsamroot	X	X
Lomatium spp.	biscuitroot; desert parsley	X	X
Lewisii redidiva	bitterroot	X	X
Eriogonum spp.	buckwheat	X	X
Erigeron spp.	daisy fleabane	X	X
Zigadenus spp.	death camas	X	X
Crepis spp.	hawksbeard	X	X
Balsamorhiza hookeri	Hooker balsamroot	X	X
Delphinium spp.	larkspur	X	X
Lupinus spp.	lupine	X	X
Cryptantha propria TRA	Malheur cryptantha	X	
Astragalus spp.	milkvetch	X	X
Eriogonum ochracephalum ssp. calcareum *TRA*	ochre-flowered buckwheat	X	
Penstemon spp.	penstemon; beard's tongue	X	X
Antennaria spp.	pussytoes	X	X
Arabis spp.	rockcress	X	X
Lithospermum ruderale	stoneseed		X
Achillea millefolium	Western yarrow	X	X
Allium spp.	wild onion	X	X
Eriophyllum lanatum	woolly eriophyllum	X	X

*exotic or non-native species

TRA - BLM Tracking Species

Table 5. Weed species

Malheur County Weed Control District, Weed Control Policy and Classification System (Partial List)

Class "A" Weeds

A weed species of known economic importance occurring in the county in small enough infestations to make eradication practical or the weed species is not known to occur in the county, but its status in surrounding counties or states makes a future occurrence seem imminent.

Scientific Name	**Common Name**
Centaurea maculosa	spotted knapweed (currently found in landscape area)
Centaurea diffusa	diffuse knapweed
Centaurea solstitialis	yellow starthistle
Euphorbia esula	leafy spurge
Chondrilla juncea	rush skeletonweed

Class "B" Weeds

A weed species of known economic importance and of limited distribution in the county subject to intensive control or eradication where feasible.

Scientific Name	**Common Name**
Carduus nutans	musk thistle
Centaurea repens (Acroptilon repens)	Russian knapweed
Onopordum acanthium	Scotch thistle

Class "C" Weeds

A weed species of known economic importance and of general distribution subject to control as local conditions warrant.

Scientific Name	**Common Name**
Cardaria spp.	whitetop (heart, lens and globe podded)
Cirsium arvense	Canada thistle
Elymus caput-medusa	Medusahead rye
Kochia scoparia	kochia
Lepidium latifolium	perennial pepperweed
Salsola kali	Russian thistle

Other non-native weeds

Not in the county weed classification system.

Chorispora tenella	blue mustard
Cirsium vulgare	bull thistle
Lactuca serriola	prickly lettuce
Lepidium perfoliatum	clasping pepperweed
Ranunculus testiculatus	bur buttercup
Sisymbrium altisimum	tumble mustard
Verbascum thapsus	common mullein

Table 6. Special status animals

Common Name	Scientific Name	BLM Status [1]	USFWS Status [2]	Occupancy Status [3]
Amphibians				
frog, Columbia spotted	*Rana luteiventris*		C	DB
toad, Western	*Bufo boreas*	ASM		DB
toad, Woodhouse	*Bufo woodhousii*	TRA		DB
Birds				
bluebird, Western	*Sialia mexicana*	ASM		SB
eagle, Northern bald	*Haliaeetus leucocephalus*		T	WR
goshawk, Northern	*Accipiter gentilis*	SEN		DB
hawk, Ferruginous	*Buteo regalis*	SEN		DB
hawk, Swainson's	*Buteo swainsoni*	ASM		DB
owl, Northern pygmy	*Glaucidium gnoma*	TRA		SB
owl, Western burrowing	*Athene cunicularia*	SEN		DB
sage grouse, Western	*Centrocercus urophasianus*	SEN		DB
shrike, loggerhead	*Lanius ludovicianus*	SEN		DB
Fishes				
trout, redband	*Oncorhynchus mykiss ssp.*	SEN		DB
Mammals				
bat, fringed	*Myotis thysanodes*	SEN		U
bat, Pacific Townsend's big-eared	*Plecotus townsendii ssp.*	SEN		DB
myotis, long-eared	*Myotis evotis*	SEN		SB
myotis, long-legged	*Myotis volans*	SEN		DB
myotis, Yuma	*Myotis yumanensis*	SEN		U
rabbit, pygmy	*Brachylagus idahoensis*	SEN		DB
shrew, Preble's	*Sorex preblei*	SEN		DB
Reptiles				
lizard, desert horned	*Phrynosoma platyrhinos*	ASM		DB
lizard, Mohave black-collared	*Crotaphytus bicinctores*	ASM		DB
lizard, Northern sagebrush	*Sceloporus graciosus*	SEN		SB

[1] Effective September 1991: SEN = sensitive species; ASM = assessment species; TRA = tracking species

[2] Effective spring 1996: E = endangered; T = threatened; C = candidate

[3] Occupancy Status pertains to Malheur Resource Area, and may not be valid for the Bully Creek Landscape area; DB = documented breeder; SB = suspected breeder; DM = documented migrant; SM = suspected migrant; U = uncertain; A = absent; WR = winter resident.

Table 7. Native and non-native fishes

Native Fishes	
Common Name	***Scientific Name***
dace, longnose	*Rhinichthys cataractae*
dace, speckled	*Rhinichthys osculus*
sculpin, mottled	*Cottus bairdi ssp.*
shiner, redside	*Richardsonius balteatus*
squawfish, northern	*Ptychocheilus oregonensis*
sucker, bridgelip	*Catostomus columbianus*
sucker, largescale	*Catostomus macrocheilus*
trout, redband	*Oncorhyncus mykiss ssp.*
Non-native fishes occurring primarily in Bully Creek Reservoir	
bass, largemouth	*Micropterus salmoides*
bass, smallmouth	*Micropterus dolomieui*
bluegill	*Lepomis macrochirus*
bullhead, brown	*Ameiurus nebulosus*
carp	*Cyprinus carpio*
catfish, channel	*Icterus punctatus*
crappie, white	*Pomoxis annularis*
pumpkinseed	*Lepomis gibbosus*
trout, rainbow	*Oncorhyncus mykiss ssp.*

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Table 8. Common aquatic species

Species	Distribution	Comments
Amphibians		
Columbia spotted frog native species federal candidate	Clover Creek Rail Canyon	Heavily impacted by habitat loss[3] and introduction of exotic species; resides in permanent water (usually near springs) with algae or macrophyte growth for cover.
Western toad native species	Several reservoirs	Adaptable; similar breeding habitat requirements to spotted frogs; this largely terrestrial species can be found far from water.
Woodhouse's toad nativespecies	Presence not documented, but suspected due to sightings in adjacent basins.	More closely tied to permanent water than western toad. Breeding occurs in irrigation ditches, slow streams, ponds and reservoirs; relies on proper wetland function to ensure reproductive success.

[1] Possible hybridization with rainbow trout (Currens 1994).

[2] ODFW stocking program goals: provide angler opportunities in mountain reservoirs which are used by Vale/Ontario and Idaho residents.

[3] Removal of riparian vegetation and lowered water tables adversely affect frog populations, and excessive sediments may reduce survival of overwintering adults.

Table 9. Existing projects in the landscape area

Allotment	Project	Job #	Location	Condition
Bully Creek 00132	Dunlop Drift Fence	0052	T. 18 S., R. 43 E., Section 13 NW¼NW¼	
Westfall 00227	Arriola Allotment Fence	0233	T. 18 S., R. 41 E., Section 7 NW¼NE¼	CA
	Grady Romans Fence	0335	T. 18 S., R. 41 E., Section 21 NW¼NW¼	CA
	Lower Clover Creek Seeding Cattleguard #1	1199	T. 18 S., R. 41 E., Section 7 SW¼SE¼	NI
	Westfall Seeding Protective Fence	1570	T. 18 S., R. 41 E., Section 18 NE¼NE¼	CA
	Westfall Cattleguard	1608	T. 18 S., R. 41 E., Section 20 SW¼NE¼	NI
	Westfall Seeding	4098	T. 18 S., R. 41 E., Section 17 SW¼NW¼	NI
	Wilson & Edmunson Fence	4113	T. 18 S., R. 41 E., Section 16 NW¼NE¼	CA
	Arriola Water Gap Fence	4501	T. 18 S., R. 41 E., Section 5 SW¼SW¼	CA
	Westfall Seeding Trough	4718	T. 18 S., R. 41 E., Section 17 SE¼SE¼	
Allotment #2 10201	Bull Spring Track Trail	0314	T. 17 S., R. 41 E., Section 1 SE¼SE¼	NI
	Swede Flat Reservoir	0344	T. 18 S., R. 42 E., Section 5 NE¼SE¼	CA Good
	Walters Spring	0358	T. 17 S., R. 42 E., Section 7 SW¼NE¼	CA Good
	Rattlesnake Spring	0359	T. 17 S., R. 42 E., Section 8 SE¼SW¼	CA Good
	Bull Spring Extension	0360	T. 18 S., R. 42 E., Section 18	Good
	Mesa Brush Control	0488	T. 19 S., R. 41 E., Section 1 NW¼NW¼	NI
	Cherry Spring	0545	T. 17 S., R. 42 E., Section 34 SW¼SW¼	Fair
	Cottonwood Mtn Track Trail	0549	T. 16 S., R. 42 E., Section 33 SE¼SE¼	NI
	Horse Camp Spring #2	0550	T. 17 S., R. 42 E., Section 5 NE¼SE¼	CA Good
	Westfall Allotment 2&3 Fence	0562	T. 18 S., R. 41 E., Section 34 NW¼NE¼	CA
	Westfall Allotment 3&4 Fence	0564	T. 19 S., R. 41 E., Section 3 NE¼SW¼	CA
	Mesa Pasture Fence Cattleguard #1	0811	T. 19 S., R. 41 E., Section 14 SW¼SE¼	NI
	Harper Seeding	0871	T. 19 S., R. 41 E., Section 24 NW¼NW¼	NI
	NG Creek Seeding		T. 17 S., R. 42 E., Section 31 NE¼NW¼	NI
	East Prong Spring	0932	T. 16 S., R. 41 E., Section 23 SE¼SW¼	CA
	Swede Spring	0933	T. 16 S., R. 41 E., Section 25 SW¼SW¼	CA
	North Salter Spring	0937	T. 17 S., R. 41 E., Section 12 SW¼SW¼	CA
	NG Creek Reservoir	0986	T 17 S., R. 41 E., Section 13 NW¼NE¼	CA
	Cottonwood Creek Cattleguard	1092	T. 18 S., R. 42 E., Section 9 NW¼NE¼	NI
	Hart Cattleguard	1100	T. 19 S., R. 41 E., Section 23 SE¼SE¼	NI
	Salter Spring	1106	T. 17 S., R. 42 E., Section 19 SE¼NW¼	CA
	NG Creek Cattleguard	1107	T. 17 S., R. 42 E., Section 19 NE¼SE¼	NI

Allotment	Project	Job#	Location	Condition
	Long Gulch Spring	1114	T. 16 S., R. 41 E., Section 35 SW¼SE¼	NI
	Wildhorse Spring	1180	T. 19 S., R. 42 E., Section 12 NE¼NW¼	CA
	Buck Spring	1183	T. 17 S., R. 42 E., Section 5 NE¼NE¼	CA
	Harper Cattleguard	1189	T. 19 S., R. 42 E., Section 30 NW¼NE¼	NI
	East Fork Dry Creek Cattleguard	1213	T. 17 S., R. 41 E., Section 11 SW¼NW¼	NI
	Alkali Spring Cattleguard	1221	T. 18 S., R. 42 E., Section 9 NW¼SW¼	NI
	Allotment 2 Summer Fence	1288	T. 17 S., R. 41 E., Section 13 NW¼NW¼	CA
	Mesa Well Pipeline	1409	T. 18 S., R. 41 E., Section 35 NE¼NE¼	CA
	Willow Cattleguard	1609	T. 19 S., R. 41 E., Section 11 SE¼SW¼	NI
	Alkali Spring 2	1715	T. 18 S., R. 42 E., Section 13 SW¼NE¼	Fair-1987
	Bully Creek Seeding Protective Fence	1760	T. 18 S., R. 41 E., Section 34 SE¼SE¼	CA
	Bully Creek Seeding Protective Fence	1817	T. 18 S., R. 41 E., Section 34 NE¼NE¼	NI
	Wild Horse Spring Division Fence	1892	T. 18 S., R. 42 E., Section 26 NW¼NW¼	CA
	Bully Creek Seeding Cattleguard	1936	T. 19 S., R. 41 E., Section 3 NW¼NE¼	NI
	Yellow Cattleguard	2103	T. 18 S., R. 42 E., Section 30 NE¼NE¼	NI
	East Prong Spring Cattleguard	2105	T. 16 S., R. 41 E., Section 23 SW¼NW¼	NI
	North Spring Cattleguard	2106	T. 18 S., R. 42 E., Section 7 NW¼NE¼	NI
	Wild Horse Charco Reservoir	2158	T. 19 S., R. 42 E., Section 12 NE¼NW¼	NI
	NG Guzzler	4145	T. 18 S., R. 42 E., Section 9 SE¼NW¼	NI
	McKinney Fence	4202	T. 16 S., R. 41 E., Section 25 NW¼NE¼	CA
	Jordan Water Gap Fence	4300	T. 18 S., R. 42 E., Section 4 NE¼SE¼	CA
	Bent Fender Spring	4322	T. 16 S., R. 41 E., Section 25 NW¼NW¼	CA
	Frank Turner Coop Fence	4500	T. 19 S., R. 42 E., Section 10 SW¼SW¼	CA
	Alkali Spring	4577	T. 18 S., R. 42 E., Section 9 SW¼SW¼	CA
	Alkali Spring Pipeline	4583	T. 18 S., R. 42 E., Section 9 SW¼SW¼	CA
	Dry Creek Boundary Fence	5170	T. 18 S., R. 41 E., Section 14 SW¼SE¼	CA
	Jones Boundary Fence	5177	T. 19 S., R. 39 E., Section 29 NW¼SW¼	NI
	Stump Reservoir	5244	T. 17 S., R. 42 E., Section 9 NW¼SW¼	Good
	Burnt Stump Reservoir	5245	T. 17 S., R. 42 E., Section 21 NE¼SW¼	Good
	NG Riparian Fence	5293	T. 16 S., R. 41 E., Section 20 NW¼NW¼	NI
	0201 Riparian Fence	5294	T. 17 S., R. 42 E., Section 28 SE¼NW¼	NI
	NG Cattleguard #1	5504	T. 16 S., R. 41 E., Section 25 SW¼NW¼	Good 1987
	NG Cattleguard #2	5511	T. 16 S., R. 41 E., Section 25 NE¼NE¼	Good 1987
	Cottonwood Creek Riparian Fence	5829	T. 17 S., R. 42 E., Section 5 NW¼SW¼	NI

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Allotment	Project	Job #	Location	Condition
Allotment #3 10202	Black Canyon Reservoir	0151	T. 19 S., R. 40 E., Section 23 NE¼NW¼	CA
	West Fork Spring	0176	T. 19 S., R. 40 E., Section 31 SW¼NE¼	CA
	Pole Creek Drift Fence	0225	T. 20 S., R. 39 E., Section 28 SW¼NE¼	NI
	Westfall Butte Track Trail	0237	T. 19 S., R. 40 E., Section 3 SE¼SW¼	NI
	Black Canyon Road	0257	T. 19 S., R. 40 E., Section 11 SE¼NW¼	NI
	Westfall Allotment 3& 4 Fence	0560	T. 19 S., R. 40 E., Section 13 NE¼NE¼	CA
	Westfall 3 & 4 Section B Fence	0588	T. 19 S., R. 40 E., Section 27 NE¼NE¼	CA
	Angel Wells Reservoir	0647	T. 19 S., R. 38 E., Section 23 NW¼NE¼	CA
	Pole Creek Reservoir	0793	T. 19 S., R. 39 E., Section 30 NE¼SW¼	CA
	Allotment 3 Reservoir	0808	T. 19 S., R. 40 E., Section 12 SW¼NE¼	CA
	Upper Gregory Creek Reservoir	0810	T. 18 S., R. 39 E., Section 28 NE¼SE¼	CA
	South Gregory Creek Reservoir	0812	T. 19 S., R. 39 E., Section 3 SW¼NE¼	CA
	Gregory Creek Reservoir	0813	T. 18 S., R. 39 E., Section 27 SE¼SE¼	CA
	Warm Spring Creek Reservoir	0815	T. 19 S., R. 38 E., Section 12 SW¼NW¼	CA
	Cottonwood Creek Seeding	0895	T. 19 S., R. 40 E., Section 1 NE¼NW¼	NI
	Muir Reservoir	0915	T. 18 S., R. 39 E., Section 32 SE¼SE¼	CA
	Corral Reservoir	0918	T. 18 S., R. 38 E., Section 36 SE¼NW¼	CA
	Swamp Creek Reservoir	0926	T. 18 S., R. 40 E., Section 32 SW¼NE¼	CA
	Jones Shear Creek Reservoir	0991	T. 19 S., R. 39 E., Section 26 NW¼NE¼	CA
	Annies Reservoir	0993	T. 19 S., R. 40 E., Section 21 SE¼SE¼	CA
	Pease Spring Reservoir	0995	T. 19 S., R. 40 E., Section 18 SW¼SE¼	CA
	Peavine Reservoir	0997	T. 20 S., R. 39 E., Section 1 NE¼NW¼	CA
	Baker Spring	1026	T. 19 S., R. 38 E., Section 23 NE¼NE¼	Good 1975
	Buckboard Spring	1047	T. 19 S., R. 39 E., Section 34 SE¼SW¼	CA
	Badger Spring	1049	T. 19 S., R. 39 E., Section 27 SW¼SW¼	CA
	Hub Spring	1051	T. 19 S., R. 39 E., Section 21 SE¼SW¼	CA
	Buckaroo Spring	1053	T. 19 S., R. 39 E., Section 29 SE¼NE¼	CA
	Westfall Butte Track Trail	1069	T. 19 S., R. 39 E., Section 7 NE¼NW¼	NI
	Cottonwood Creek Seeding Cattleguard #1	1094	T. 19 S., R. 40 E., Section 11 NE¼NE¼	NI
	New Juniper Spring	1119	T. 19 S., R. 39 E., Section 9 NE¼NW¼	Good 1975
	Muir Spring	1145	T. 19 S., R. 39 E., Section 5 NE¼SW¼	CA
	Westfall Cattleguard	1362	T. 18 S., R. 41 E., Section 28 NW¼NW¼	NI
	Trail Reservoir	1365	T. 19 S., R. 39 E., Section 6 NE¼NE¼	CA
	Zader Reservoir	1366	T. 19 S., R. 38 E., Section 1 SW¼SE¼	Good 1985

Allotment	Project	Job #	Location	Condition
	Westfall Field Stock Trail	1408	T. 19 S., R. 39 E., Section 15 NE¼SE¼	NI
	Gregory Spring	1482	T. 19 S., R. 39 E., Section 27 NW¼NE¼	CA
	Ford Cattleguard	1590	T. 18 S., R. 40 E., Section 11 SW¼SE¼	NI
	Ising Creek Cattleguard	1592	T. 19 S., R. 40 E., Section 23 SW¼SW¼	NI
	Lawrence Cattleguard	1594	T. 18 S., R. 40 E., Section 36 SW¼SE¼	NI
	Swamp Creek Seeding Protective Fence	1625	T. 18 S., R. 40 E., Section 34 NW¼NW¼	NI
	Swamp Creek Seeding	1673	T. 18 S., R. 40 E., Section 22 NE¼NE¼	NI
	China Creek Stock Trail	1914	T. 19 S., R. 40 E., Section 22 NW¼NE¼	NI
	Hanna Place Cattleguard	2179	T. 17 S., R. 39 E., Section 33 SW¼SE¼	NI
	Allotment 3 Division Fence	2166	T. 19 S., R. 40 E., Section 19 NW¼SW¼	CA
	Gregory Creek Cattleguard	3506	T. 18 S., R. 39 E., Section 27 SE¼SE¼	NI
	Upper Pole Cattleguard	3507	T. 19 S., R. 39 E., Section 30 NW¼NE¼	NI
	Rimrock Cattleguard	3509	T. 19 S., R. 40 E., Section 19 NW¼SW¼	NI
	Allotment 4 Stock Trail	3600	T. 19 S., R. 40 E., Section 13 NE¼NE¼	NI
	Becker Spring	3796	T. 19 S., R. 39 E., Section 20 SE¼NW¼	CA
	Rimrock Spring	3823	T. 19 S., R. 39 E., Section 36 NW¼NW¼	CA
	Little Rock Reservoir	3854	T. 19 S., R. 41 E., Section 7 NW¼SW¼	CA
	Pole Creek Division Fence	4052	T. 19 S., R. 38 E., Section 25 NE¼NW¼	Good
	Devils Rim Spring	4071	T. 18 S., R. 39 E., Section 29 SW¼SE¼	Good 1989 Dry 1991
	Pole Creek Spring	4090	T. 19 S., R. 39 E., Section 19 SE¼NE¼	Good 1988
	Middle Spring	4210	T. 19 S., R. 39 E., Section 14 NE¼SE¼	Good 1987
	Big Flat Spring Development	4239	T. 19 S., R. 38 E., Section 1 NW¼NE¼	Good 1986
	Jonesboro Cattleguard	4311	T. 20 S., R. 39 E., Section 28 SW¼SE¼	
	Antelope Cattleguard	4316	T. 20 S., R. 39 E., Section 2 NW¼SW¼	NI
	Cottonwood Division Fence	4516	T. 18 S., R. 41 E., Section 31 NW¼NE¼	NI
	South Pole Creek Fence	4775	T. 20 S., R. 39 E., Section 17 NE¼SW¼	CA
	Swamp Creek Fence	4826	T. 18 S., R. 40 E., Section 33 SW¼SW¼	CA
	Pedro Pit	4897	T. 19 S., R. 38 E., Section 25 SW¼SE¼	CA
	Maybe Reservoir	4898	T. 20 S., R. 39 E., Section 8 SW¼NW¼	CA
	Heifer Reservoir	4899	T. 19 S., R. 38 E., Section 24 SE¼SW¼	NI
	Kelsey Butte Corral	4993	T. 19 S., R. 39 E., Section 19 SW¼SE¼	CA
	Allotment 3 Cherry Spring	4996	T. 20 S., R. 39 E., Section 6 SE¼SW¼	Good
	Hart Spring	5000	T. 19 S., R. 39 E., Section 4 NE¼SW¼	Dry

Allotment	Project	Job #	Location	Condition
	Kelsey Butte Fence	5098	T. 19 S., R. 39 E., Section 20 NW¼NW¼	CA
	Black Canyon Division Fence	5168	T. 19 S., R. 40 E., Section 15 NW¼NW¼	CA
	New Deal Reservoir	5185	T. 19 S., R. 39 E., Section 23 SW¼NW¼	CA
	Middle Black Canyon Reservoir	5186	T. 19 S., R. 40 E., Section 16 NW¼NE¼	CA
	Lower Black Canyon Reservoir	5187	T. 19 S., R. 40 E., Section 11 NW¼SW¼	CA
	Gregory Creek #1 Reservoir	5188	T. 18 S., R. 40 E., Section 29 NW¼NE¼	Good
	Gregory Creek #2 Reservoir	5189	T. 18 S., R. 40 E., Section 19 NE¼SW¼	Good
	Gregory Creek #3 Reservoir	5190	T. 18 S., R. 39 E., Section 36 NE¼SE¼	Good
	Gregory Creek #4 Reservoir	5191	T. 18 S., R. 39 E., Section 24 NE¼NW¼	Good
	Allotment 3 Wildlife Fence	5232	T. 19 S., R. 40 E., Section 12 SW¼NE¼	NI
	Sheep Corral Reservoir	5251	T. 19 S., R. 40 E., Section 30 SW¼SE¼	Good
	Gregory Creek Fence	5383	T. 18 S., R. 39 E., Section 20 SW¼SE¼	CA
	Pease Spring Reservoir Enclosure	5470	T. 19 S., R. 40 E., Section 18 SW¼SE¼	NI
	Stud Horse Division Fence	5492	T. 19 S., R. 38 E., Section 2 NW¼NE¼	CA
	Stud Horse Division Cattleguard	5543	T. 19 S., R. 39 E., Section 6 SW¼SE¼	NI
	Kelsey Cattleguard	5590	T. 19 S., R. 39 E., Section 20 SW¼NW¼	NI
	Indian Creek Protective Fence	5606	T. 18 S., R. 39 E., Section 15 SE¼SW¼	CA
	Cooper Reservoir	5664	T. 18 S., R. 39 E., Section 22 NE¼SE¼	Good
Rail Canyon 10205	Medlin Fence	0033	T. 17 S., R. 38 E., Section 2 SE¼SE¼	CA
	Scott Jordan Fence	0650	T. 17 S., R. 39 E., Section 11 NE¼NW¼	CA
	Steamboat Cattleguard	0700	T. 16 S., R. 38 E., Section 34 SE¼NE¼	NI
	Kitten Canyon Spring	1009	T. 17 S., R. 38 E., Section 2 SE¼NW¼	CA
	Kitten Canyon Reservoir	1022	T. 17 S., R. 38 E., Section 3 NE¼NW¼	CA
	Rock Creek Reservoir	1024	T. 17 S., R. 39 E., Section 11 SE¼NW¼	CA
	Chastain Division Fence	1258	T. 17 S., R. 38 E., Section 11 NE¼NE¼	CA
	Bendire Creek Cattleguard	1589	T. 16 S., R. 38 E., Section 30 SE¼SE¼	NI
	Ringo Butte Cattleguard #1	1606	T. 16 S., R. 37 E., Section 23 SE¼SE¼	NI
	Poor Jug Spring	4840	T. 16 S., R. 38 E., Section 34 SW¼SE¼	CA
	Pretty Pat Spring	4843	T. 16 S., R. 38 E., Section 33 NE¼SE¼	CA
	Hart Management Fence	4955	T. 16 S., R. 38 E., Section 30 NE¼NE¼	CA
	Clover Reservoir	5247	T. 17 S., R. 39 E., Section 9 NE¼NE¼	CA
	Rock Reservoir	5248	T. 17 S., R. 39 E., Section 9 SW¼NW¼	CA
	Sheep Trough Spring	5334	T. 16 S., R. 38 E., Section 20 NW¼NE¼	Good 1987
	Chastain Spring #2	5342	T. 17 S., R. 38 E., Section 14 NE¼NE¼	Good 1994

Allotment	Project	Job #	Location	Condition
	Crow Creek Spring #1	5363	T. 16 S., R. 38 E., Section 17 SW¼SW¼	Good 1988
	Crow Creek Spring #2	5364	T. 16 S., R. 38 E., Section 17 SW¼NW¼	NI
	Crow Creek Spring #3	5365	T. 16 S., R. 38 E., Section 20 SW¼SW¼	Good 1989
	Clover Creek Boundary Fence	5610	T. 16 S., R. 38 E., Section 11 NW¼NW¼	NI
	Ginger Spring	5668	T. 16 S., R. 38 E., Section 20 SE¼NW¼	Good 1989
	Chastain Division Fence	5772	T. 17 S., R. 39 E., Section 4 SW¼SW¼	CA
	Helmet Reservoir	6161	T. 17 S., R. 38 E., Section 17 NW¼NE¼	Good 1995
Richie Flat 10214	Ridge Road Reservoir	0144	T. 17 S., R. 40 E., Section 26 NW¼SW¼	CA
	Saddle Reservoir	0146	T. 17 S., R. 40 E., Section 21 SW¼NW¼	CA
	Westhill Allotment 1 Fence	0265	T. 17 S., R. 39 E., Section 13 SE¼SE¼	CA
	Log Creek Basin Reservoir	0340	T. 17 S., R. 40 E., Section 1 SW¼SW¼	CA
	Lower Clover Creek Seeding Fence	0940	T. 17 S., R. 40 E., Section 36 SW¼SW¼	NI
	Robin Reservoir	0948	T. 17 S., R. 40 E., Section 15 SE¼SW¼	NI
	Lower Clover Creek Seeding	0960	T. 17 S., R. 40 E., Section 23 SW¼SW¼	NI
	Lower Clover Creek Seeding Fence	1130	T. 17 S., R. 40 E., Section 26 NW¼NW¼	NI
	Baker Spring Cattleguard	1196	T. 17 S., R. 39 E., Section 1 SE¼SE¼	NI
	Lower Clover Creek Seeding Cattleguard #2	1201	T. 17 S., R. 40 E., Section 36 SW¼SW¼	NI
	Lower Clover Creek Seeding Cattleguard #3	1202	T. 17 S., R. 40 E., Section 22 SE¼SE¼	NI
	Clover Creek Allotment Fence	1290	T. 17 S., R. 40 E., Section 9 NW¼NE¼	CA
	West Fork Log Creek Spring	1392	T. 17 S., R. 40 E., Section 1 NW¼NE¼	NI
	Deep Creek Division Fence	1477	T. 17 S., R. 40 E., Section 11 NE¼NW¼	CA
	Wallace Bethel Management Fence	1823	T. 17 S., R. 41 E., Section 6 NW¼NW¼	NI
	Buckbrush Seeding	1957	T. 18 S., R. 41 E., Section 5 NW¼NW¼	NI
	Reds Creek Threeway Enclosure	3795	T. 17 S., R. 41 E., Section 20 NE¼NW¼	NI
	Tootsie Cattleguard	4307	T. 17 S., R. 40 E., Section 36 SW¼NW¼	NI
	Clover Creek Fence	5092	T. 17 S., R. 39 E., Section 1 SE¼SE¼	CA
	Log Cabin Division Fence	5169	T. 17 S., R. 41 E., Section 6 NE¼NW¼	CA
	Poison Butte Boundary Fence	5171	T. 17 S., R. 41 E., Section 32 NE¼NW¼	CA
	Red Reservoir	5193	T. 17 S., R. 41 E., Section 17 NE¼SW¼	CA
	North Ridge Reservoir	5214	T. 17 S., R. 39 E., Section 12 SE¼NE¼	CA
	Birch Creek Reservoir	5241	T. 17 S., R. 41 E., Section 7 SE¼NW¼	CA
	Richie Flat Seeding	5297	T. 18 S., R. 40 E., Section 1 NW¼SE¼	NI
	South Ridge Brush Control	5302	T. 17 S., R. 40 E., Section 15 SW¼SE¼	NI
	North Ridge Brush Control	5303	T. 17 S., R. 39 E., Section 1 SE¼SE¼	NI

Allotment	Project	Job #	Location	Condition
	North Ridge Control Burn	5323	T. 17 S., R. 40 E., Section 21 SE¼NE¼	NI
	South Ridge Spring	5338	T. 17 S., R. 40 E., Section 23 NW¼NW¼	NI
	Little Basco Spring	5339	T. 17 S., R. 41 E., Section 20 SW¼NW¼	NI
	Richie Flat Windmill	5589	T. 18 S., R. 41 E., Section 7 NW¼NW¼	NI
Brain Creek 10215	Bull Spring Pipeline	0360	T. 18 S., R. 41 E., Section 18 T. 18 S., R. 42 E., Section 7	replace pipe
	Red Creek Cattleguard	0693	T. 17 S., R. 41 E., Section 5 SW¼NE¼	Good 1987
	Buckbrush Creek Division Fence	0845	T. 16 S., R. 41 E., Section 32 SW¼SW¼	CA
	Summer Division Fence	1288	T. 17 S., R. 41 E., Section 8, 9, 16, 17	CA
	NG Creek Seeding Division Fence	4233	T. 18 S., R. 42 E., Section 1 SE¼SE¼	OK
	Buckbrush Reservoir	4272	T. 17 S., R. 41 E., Section 4 NE¼NW¼	NI
	Brian Creek Division Fence	5350	T. 16 S., R. 41 E., Section 28 NE¼NW¼	OK Good
Buckbrush 10218	Buckbrush Reservoir	0342	T. 17 S., R. 41 E., Section 21 SW¼SW¼	CA
	Homestead Spring	0355	T. 16 S., R. 41 E., Section 28 SE¼SE¼	CA
	Upper Mud Spring	0357	T. 17 S., R. 41 E., Section 3 SE¼NW¼	CA
	Buckbrush Cattleguard	0695	T. 17 S., R. 41 E., Section 29 SE¼NW¼	NI
	Salters Canyon Reservoir	0988	T. 17 S., R. 41 E., Section 25 SW¼NW¼	CA
	Twin Juniper Spring	1058	T. 16 S., R. 41 E., Section 22 NW¼NW¼	CA
	Chokecherry Spring	1122	T. 16 S., R. 41 E., Section 26 SW¼SW¼	CA
	NG Creek Seeding Protective Fence	1132	T. 17 S., R. 41 E., Section 26 SE¼SW¼	CA
	Dry Creek Cattleguard	1215	T. 17 S., R. 41 E., Section 16 NW¼NE¼	CA
	Lost Spring	1533	T. 16 S., R. 41 E., Section 27 NE¼NW¼	CA
	Grey Horse Spring	1534	T. 16 S., R. 41 E., Section 22 SE¼SE¼	CA
	Pin Butte Cattleguard	1866	T. 18 S., R. 41 E., Section 5 NW¼SW¼	NI
	Buckbrush Seeding Protective Fence	2077	T. 17 S., R. 41 E., Section 32 NW¼NE¼	CA
	Buckbrush Cattleguard	2104	T. 17 S., R. 41 E., Section 29 SE¼SW¼	NI
	Cottonwood Mountain Fence	3735	T. 16 S., R. 41 E., Section 26 NW¼NW¼	CA
	Mud Spring	4079	T. 18 S., R. 41 E., Section 4 SE¼SW¼	CA
	Homestead Reservoir	4252	T. 16 S., R. 41 E., Section 33 NW¼SE¼	CA
	Chalk Spring	4579	T. 18 S., R. 41 E., Section 3 NE¼SW¼	CA
	Buckbrush Fence	4985	T. 17 S., R. 41 E., Section 14 NW¼NW¼	CA
	Poison Butte Reservoir	5194	T. 17 S., R. 41 E., Section 29 SE¼SE¼	Good
	Firebreak Reservoir	5201	T. 17 S., R. 41 E., Section 23 SE¼NE¼	CA
	Big Poison Reservoir	5242	T. 17 S., R. 41 E., Section 32 NW¼SE¼	CA

Allotment	Project	Job #	Location	Condition
	Brady Reservoir	5243	T. 17 S., R. 41 E., Section 9 SW¼SE¼	CA
	Buck Basin Reservoir	5246	T. 17 S., R. 41 E., Section 28 NW¼SE¼	CA
	Poison Butte Pipeline	5464	T. 17 S., R. 41 E., Section 32 SW¼NE¼	NI
Willow Basin 10222	North Fork Cattleguard	0413	T. 21 S., R. 38 E., Section 17 NE¼NW¼	NI
	Bendire Fence	0499	T. 17 S., R. 37 E., Section 2 NW¼NW¼	CA
	Lake Ridge Fence	0590	T. 17 S., R. 38 E., Section 25 NW¼SW¼	CA
	Big Flat Reservoir	0921	T. 17 S., R. 38 E., Section 33 NW¼SE¼	CA
	Mail Box Canyon Reservoir	0923	T. 18 S., R. 38 E., Section 3 NW¼NE¼	CA
	Taylor Reservoir	0984	T. 18 S., R. 38 E., Section 12 NW¼NE¼	CA
	Jenkins Reservoir	1029	T. 17 S., R. 39 E., Section 17 SE¼SW¼	CA
	Little Juniper Spring	1067	T. 18 S., R. 39 E., Section 6 SE¼NE¼	CA
	Antelope Spring	1083	T. 17 S., R. 38 E., Section 28 SW¼NW¼	CA
	Coyote Spring	1117	T. 18 S., R. 39 E., Section 6 SE¼NW¼	CA
	Cottonwood Creek Seeding Fence	1118	T. 18 S., R. 40 E., Section 24 NE¼NE¼	CA
	Upper Willow Spring Basin Cattleguard	1194	T. 18 S., R. 38 E., Section 15 SE¼SW¼	NI
	Bully Creek Cattleguard	1208	T. 18 S., R. 40 E., Section 24 NW¼NE¼	NI
	Steamboat Ridge Division Fence	1377	T. 17 S., R. 38 E., Section 9 NW¼NE¼	CA
	Big Flat Division Fence	1379	T. 17 S., R. 38 E., Section 22 SW¼SW¼	CA
	Willow Basin Spring	1466	T. 18 S., R. 38 E., Section 10 SE¼NW¼	CA
	Sheep Rock Spring	1742	T. 17 S., R. 37 E., Section 2 SW¼NW¼	CA
	Sheep Rock Cattleguard	1770	T. 17 S., R. 37 E., Section 3 SE¼NE¼	NI
	Hannah Place Cattleguard	1864	T. 18 S., R. 40 E., Section 7 SE¼NW¼	NI
	Cottonwood Creek Seeding Cattleguard 2	4237	T. 18 S., R. 40 E., Section 25 SW¼SW¼	NI
	Bender Ridge Corral	4947	T. 18 S., R. 38 E., Section 2 NW¼SE¼	NI
	Jenkins State Block Fence	5090	T. 17 S., R. 38 E., Section 13 NE¼SE¼	CA
	Pan Handle Fence	5096	T. 18 S., R. 39 E., Section 12 NE¼NE¼	CA
	Little Indian Reservoir	5212	T. 18 S., R. 39 E., Section 9 SW¼SE¼	CA
	Coyote Reservoir	5213	T. 17 S., R. 39 E., Section 32 SW¼NE¼	CA
	Bully Reservoir	5215	T. 17 S., R. 38 E., Section 35 NW¼SE¼	CA
	Hanna Reservoir 2	5216	T. 17 S., R. 39 E., Section 35 SW¼NW¼	CA
	Big Indian Reservoir	5217	T. 18 S., R. 39 E., Section 11 SE¼NW¼	CA
	Scott Reservoir	5249	T. 17 S., R. 39 E., Section 22 NW¼NW¼	CA
	Bendire Creek Spring Exclosure	5274	T. 17 S., R. 37 E., Section 14 NE¼SW¼	NI
	Elk Spring	5275	T. 17 S., R. 37 E., Section 14 NE¼NE¼	Good 1980

Allotment	Project	Job #	Location	Condition
	Robin Reservoir	5276	T. 17 S., R. 38 E., Section 28 SE¼SW¼	Fair 1991
	Antelope Reservoir	5277	T. 17 S., R. 38 E., Section 20 NE¼SE¼	NI
	Whiskey Gulch Spring	5278	T. 17 S., R. 37 E., Section 23 NE¼NE¼	CA
	Willow Basin Reservoir	5289	T. 18 S., R. 38 E., Section 8 NE¼NE¼	NI
	Mailbox Canyon Brush Control	5304	T. 17 S., R. 38 E., Section 26 SW¼SE¼	NI
	Panhandle Brush Control	5305	T. 18 S., R. 40 E., Section 6 SE¼NW¼	NI
	Indian Creek Brush Control	5306	T. 18 S., R. 39 E., Section 11 SW¼SE¼	NI
	Willow Basin Brush Control	5307	T. 18 S., R. 38 E., Section 3 SW¼SW¼	NI
	School Marm Spring	5357	T. 17 S., R. 38 E., Section 27 NE¼SE¼	CA
	Steam Spring	5358	T. 17 S., R. 38 E., Section 21 SW¼NW¼	NI
	Arther Spring	5360	T. 17 S., R. 38 E., Section 7 SW¼SE¼	NI
	Rye Spring	5361	T. 17 S., R. 37 E., Section 10 NE¼SE¼	NI
	Mahan Spring	5458	T. 17 S., R. 38 E., Section 28 SW¼NE¼	NI
Lava Ridge 10223	Jenkins Well	0480	T. 18 S., R. 40 E., Section 4 SW¼NE¼	CA
	John Smit Allotment Fence	0487	T. 18 S., R. 40 E., Section 2 SE¼SW¼	CA
	Lava Ridge Seeding	0961	T. 17 S., R. 40 E., Section 34 NW¼NW¼	NI
	Jordan Reservoir	1020	T. 17 S., R. 39 E., Section 13 SE¼SE¼	CA
	Lava Ridge Seeding Protective Fence	1126	T. 17 S., R. 40 E., Section 28 NE¼NE¼	CA
	Becker Table Cattleguard	1852	T. 18 S., R. 40 E., Section 6 NE¼NW¼	NI
	Indian Creek Division Fence	3768	T. 17 S., R. 40 E., Section 31 SW¼NW¼	NI
	Lava Ridge Division Fence	4112	T. 17 S., R. 40 E., Section 26 SW¼SW¼	CA Good
	Tyree Spring	4764	T. 17 S., R. 40 E., Section 26 NW¼SW¼	CA Good
	Smit Horse Pasture Fence	5093	T. 18 S., R. 40 E., Section 3 NW¼SW¼	CA
	North Bully Creek Reservoir	5282	T. 17 S., R. 40 E., Section 30 NE¼NE¼	Good
	East Lava Reservoir	5283	T. 17 S., R. 40 E., Section 35 SE¼SE¼	Good
	West Lava Ridge Reservoir	5284	T. 17 S., R. 40 E., Section 34 NE¼SW¼	not holding water
	North Bully Creek Division Fence	5535	T. 17 S., R. 40 E., Section 30 SE¼NW¼	Good
West Bench 20104				

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Table 10. Proposed project tracking

Allotment/ Number	Pasture #[1]	Project Name	Location	Proposed Action	Target FY
Allotment #2 10201	02	Vegetation control	T19S R41E Sec. 24	Manipulate vegetation to reduce sagebrush while leaving a mosaic and increasing diversity for sage grouse habitat. Treat 400-500 acres in a mosaic pattern with a brush beater within the original 2000 acres seeding. Seed a mix of crested wheatgrass and forbs where necessary to establish a grassland.	2001+
	04	Windmill	T18S R42E Sec. 36	Construction including a solar pump.	2001
	04	Rehabilitate Annual Rangelands	T19S R42E Sec. 1,6 & 7	Manipulate vegetation to increase forbs and retain patches of sagebrush. Burn and seed 2,500 acres of annual rangeland with a mix of native grasses and forbs; retain patches of sagebrush.	2001+
	05	Bull Springs Pipeline Replacement	T18S R41E Sec. 13, NENE T18S R42E Sec. 7, SWSW	2 miles pipeline reconstruction/replacement.	1999
	05	Seeding Management	T17S R42E Sec. 15	Improve non-native seeding vigor and productivity while increasing grass and forb diversity to benefit wildlife, retaining shrub mosaic. Treat approximately 1600 acres in a mosaic pattern with a brush beater within the original 2000 acre seeding. A crested wheatgrass/forb mix will be seeded in areas having a sparse understory.	2001+
	06	Seeding Management	T18S R 41E Sec. 34	Improve non-native seeding vigor and productivity while increasing shrub and forb diversity. Consider reseeding a portion of the original seeding in the north. Use brush beater to remove sagebrush from approximately 500 acres of the original 600 acre seeding. Reseed with crested/forb mix where there is insufficient remnant plants.	2001+
	07	Rocke Riparian Pasture Fence and remove old fence.	T17S R42E S.x. 33,29,20	Combine three exclosure/holding pastures to make a riparian pasture which will allow short duration use in spring.	1999
	07	Seeding Management	To be determined	Improve seeding vigor and productivity while increasing shrub and forb diversity. Treat 1000 acres of sagebrush in a mosaic pattern using a brush beater within the original 2593 acre seeding.	2001+
	08	Cottonwood Fire Rehab & NG Creek Exclosure		Maintain fences until vegetation controls and regrowth are initiated. Then consider fence removal or manage as riparian pasture. Note: Redband trout present.	2000
Allotment #3 10202	02	Pence Spring Reservoir Fence Reconstruction	T19S R40E Sec. 18, SWSE	Repair existing fence around reservoir and develop water gap for livestock.	1999
	02	Frog Riparian Fence	T19S R40E Sec. 15,16, 21, 22,28	Protects extensive riparian areas and creates a riparian pasture once riparian potentials are determined.	1999

Allotment/ Number	Pasture #[1]	Project Name	Location	Proposed Action	Target FY
	04	Cottonwood Creek Storage Tank	T19S R41E Sec. 4	Reconstruction & maintenance.	2001
	04	East Cottonwood Pasture Fence	T19S R41E Sec. 33, 34	0. 5 mile division fence construction.	2001
	05	Allotment #3 Reservoir Fence Reconstruction	T19S R40E Sec. 12	Fence reservoir and develop water gap for livestock.	1999
	05	West Cottonwood Pasture Fence	T18S R40E Sec. 35	0. 5 mile division fence construction.	2001
	06	Spring Protection	T19S R39E Sec. 19	Protect spring & remove stock tank from tributary to Cottonwood Creek.	2000
	08	Zotto Reservoir	T19S R40E Sec. 15, SESE	Repair existing reservoir exclosure and develop water gap for livestock.	1999
	10, 11	Vegetation control	T19S R39E Sec. 3,10 T19S R39E Sec. 5 T19S R39E Sec. 3, 10	Control invading juniper and rejuvenate decadent mountain sagebrush on 640 acres by cutting and prescribed burns in two portions of North Studhorse and the northwest edge of South Gregory Creek pastures.	2001
Rail Canyon 10205	04	Kitten Canyon Pasture Fence	T16S R38E Sec. 32,33,34	3 miles (including 1 mile in WSA) division fence construction.	2001
	09	Allotment Fence	T17S R39E Sec. 13, NWNE	1 mile allotment division fence construction.	2001
Richie Flat 10214	01	Ridge Road Reservoir Projects	T17S R40E Sec. 26, NWSW	See description for Lava Ridge Allotment.	1999
	01	Seeding Management	To be determined	Improve non-native seeding vigor and productivity while increasing shrub and forb diversity.	2001+
	02	Vegetation control	To be determined	Consider control measures for invading juniper (low priority).	2005+
Brian Creek 10215	01	Pasture Fence	T16S R41E Sec. 5	3.5 miles division fence construction.	1999
	01	Mountain Spring 1 Mountain Spring 2 Mountain Spring 3 Mountain Spring 4 Mountain Spring 5 Mountain Spring 6	T17S R41E Sec. 8, NWNE T17S R41E Sec. 4, NWSW T17S R41E Sec. 4, NWNW T17S R41E Sec. 33, SWSW T17S R41E Sec. 33, SWNW T17S R41E Sec. 33, SENW	Construct new fencing, spring boxes, pipelines and troughs. Obtain better distribution of livestock and reduced pressure on riparian areas.	1999

Allotment/ Number	Pasture #[1]	Project Name	Location	Proposed Action	Target FY
	02, 03	NG Seeding Pastures Brush Control	T17S R41E Sec. 7, 12, 13	Improve diversity of grasses and forbs in the seeding. Brush beating followed by reseeding after early season use. Pasture 02: Use brush beater in North NG Pasture to remove sagebrush canopy on 900 of the 1171 acre original seeding. Add crested/forb seed mix where necessary Pasture 03: Use a brush beater to remove sagebrush canopy from approximately 600 acres of the original 700 acre seeding. Add a mix of crested wheatgrass and forbs where necessary.	2000/ 2001
Buckbrush 10218	01	Seeding Management	To be determined	Improve seeding vigor and productivity & increase shrub and forb diversity. Use brush beater to remove the sagebrush canopy from 700 acres of the original 850 acre seeding. Add a mix of crested wheatgrass and forbs where necessary.	2001+
	02	Pasture Division Fences (2)	T17S R41E Sec. 3 T16S R41E Sec. 28, 34, 35	2.5 miles west/east fence construction. 2.5 miles north/south fence construction.	1999
	01, 03	Rehabilitate Annual Rangelands	T18S R41E Sec. 4, 9, 23 T17S R Sec. 11,23,26	Potential candidates for conversion of annual rangelands. Burn and seed 640 acres in Buckbrush Seeding Pasture and 640 acres in Turnout Pasture to rehabilitate annual rangeland. Use a mix of native grasses and forbs.	2001+
Westfall Allotment		Westfall Seeding		Burn and seed 1280 acres of annual rangelands with a mix of native grasses and forbs. Retain patches of sagebrush	
Willow Basin 10222	01	Vegetation control	T18S R38E Sec. 1,2, 12	Rejuvenate mature sagebrush stands and increase vegetation diversity. Use prescribed fire and cutting to control invading juniper on 600 acres of uplands to increase grassland openings in the mature sagebrush community.	2001+
	08	Pasture fences	To be determined	To be determined.	2001+
	07, 08	Vegetation control	T18S R38E Sec. 11,14 T17S R37E Sec. 1,6,12,13	Rejuvenate mature aspen stands and reduce invading juniper. Use prescribed fire and cutting to treat 200 acres in Willow Basin Pasture and 3000 acres in Bully Creek Pasture for juniper invasion and improvement of mountain sagebrush, aspen and riparian communities.	2000+
Lava Ridge 10223	01	Pasture Fence	T16S R40E Sec. 3, 4 T17S R40E Sec. 34	2 miles north/south pasture division fence construction.	1999
	01	Allotment Fence	T17S R40E Sec. 3, 10	2 miles east/west allotment/pasture boundary fence construction.	1999
	01	Pipeline Extension and Trough Construction	T16S R40E Sec. 33, NENE	0.5 mile extension from private to public lands; trough construction.	1999

Allotment/ Number	Pasture #[1]	Project Name	Location	Proposed Action	Target FY
	02	**Ridge Road Reservoir Fence Reconstruction**	T17S R40E Sec. 26, NWSW	Reconstruct existing reservoir fence in East Lava Seeding (Lava Ridge Allotment) and South Ridge (Richie Flat Allotment).	1999
	02	**Spring Box, fence, pipeline and trough construction**	T17S R40E Sec. 26, NWSW	At Ridge Road Reservoir, construct new fence, spring box, pipeline and trough.	1999
	02, 03	**East & West Lava Seedings Brush Control**	T18S R40E Sec. 2 T17S R40E Sec. 34	Improve diversity of grasses and forbs in the seeding (particularly valuable in West Lava Seeding). Use brush beater to remove sagebrush in a mosaic pattern from approximately 900 acres of the original 1000 acre seeding. Add crested wheatgrass and forb mix where necessary. Construct approximately 1½ miles of fence to divide native and seeded portions of the two pastures.	2000/ 2001
West Bench 20104	01	**Rehabilitate Annual Rangelands**	T18S R43E Sec. 26,27	Potential candidates for conversion of annual rangelands. Burn and seed 640 acres of annual (locked-in) rangeland with a mix of native grasses and forbs. Retain patches of sagebrush.	2001+

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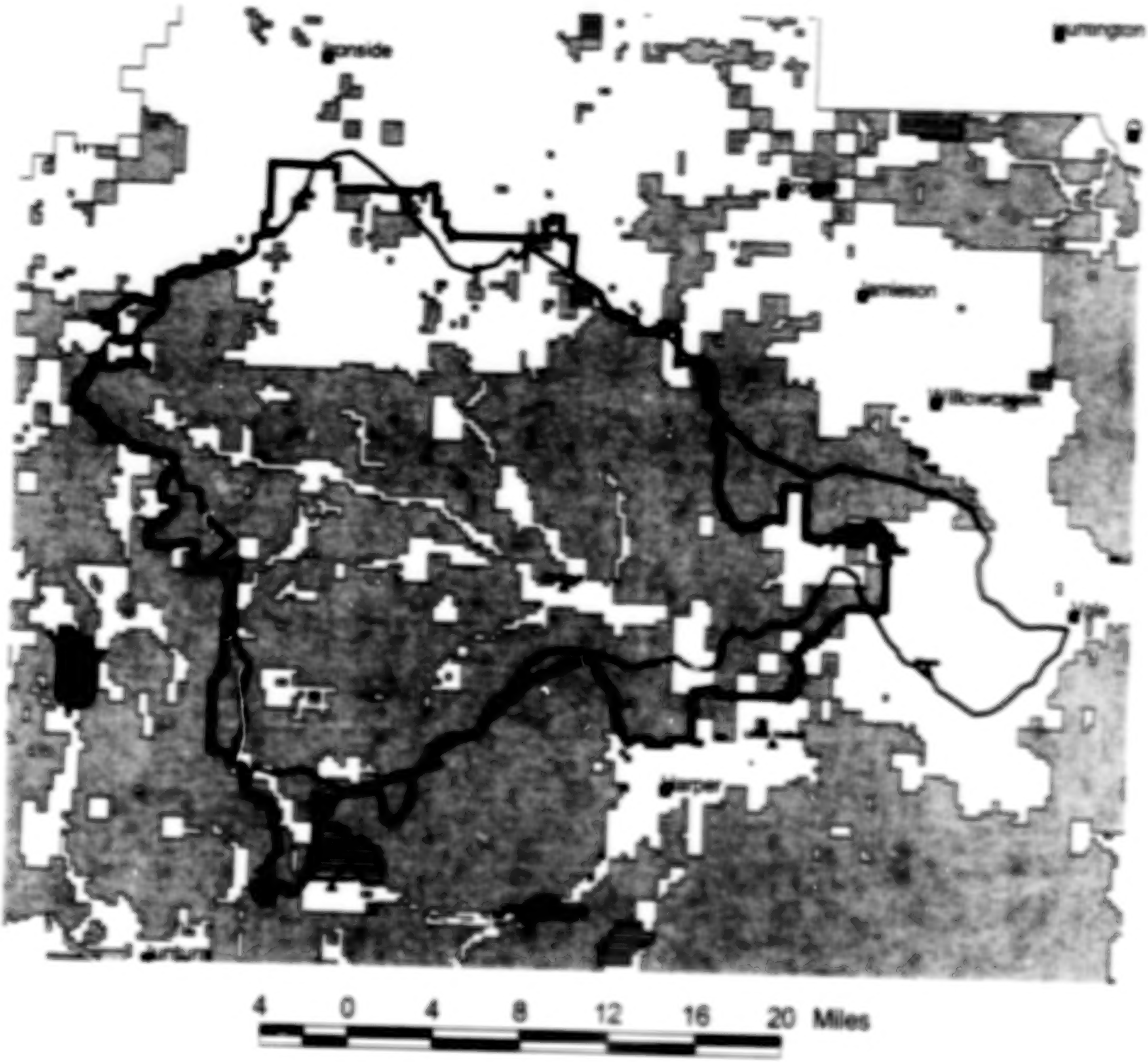
[1] Pasture numbers and names are located in Appendix C.

Table 11. Factors for determining livestock grazing limitations

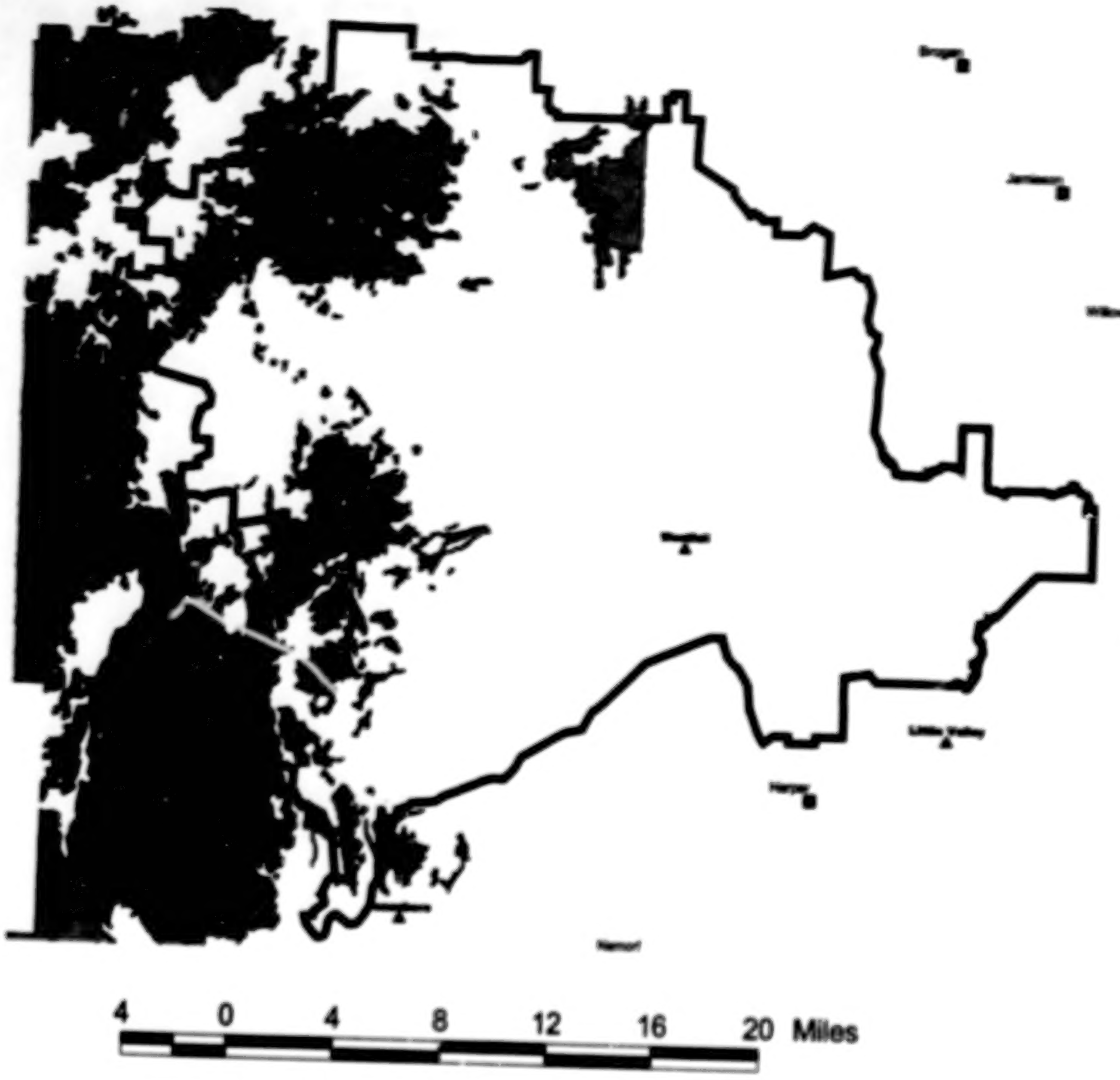
<table>
<tr><th>Factors</th><th colspan="2">Description</th></tr>
<tr><td>Wildlife (sage grouse leks present)</td><td colspan="2">Spring conflicts with sage grouse needs and early season grazing on strutting grounds (lek site), strutting runs from February through May with the peak time in April and May. Nesting occurs within a five mile radius (maximum) of lek. Grazing utilization not to exceed 40% and/or 7-9" stubble height after growing season.</td></tr>
<tr><td>Wildlife (big game [1] winter range)</td><td colspan="2">Restrict livestock use during critical big game winter use period (December to early March) in years of deer and pronghorn use (as determined by severe weather conditions).</td></tr>
<tr><td>Riparian Health and Vigor [2]</td><td colspan="2">Restrict livestock use to riparian utilization levels during hot and late seasons (LAMP, Table 7)
Allow periodic flexibility with high intensity/short duration grazing; rest rotation; limit hot season use where riparian trends are up.</td></tr>
<tr><td>Upland Health and Vigor</td><td colspan="2">Upland bunchgrass species require periodic rest from grazing at the critical growing season (generally May-June). Deferring grazing until after this time provides for plant health and vigor.</td></tr>
<tr><td rowspan="9">Range Readiness</td><td colspan="2">Established for key species at scheduled time of use prior to grazing. Livestock grazing will not be scheduled prior to 3/15 or continue beyond 11/15 unless following criteria are met:</td></tr>
<tr><td>Cheatgrass</td><td>(Few perennials) 3" leaf stage and 2" green active growth. (Significant perennials) 3" leaf stage and 2" active growth with old growth or 1" active growth without old feed.</td></tr>
<tr><td>Crested Wheatgrass Seeding</td><td>Average 4" active growth with old growth present or 6" active growth without old growth.</td></tr>
<tr><td>Squirreltail</td><td>Average 3-4" active growth with old growth present or 5" active growth without old growth.</td></tr>
<tr><td>Bluebunch wheatgrass</td><td>4" active growth with old growth present or 6" active growth without old growth.</td></tr>
<tr><td>Idaho fescue
Thurber needlegrass</td><td>3-4" active growth with old growth present or 5" active growth without old growth.</td></tr>
<tr><td>Soil</td><td>Sufficient soil moisture exists to allow adequate regrowth on spring/fall range.</td></tr>
<tr><td>Stock Water</td><td>Pastures must have adequate stock water, or permittee must haul water.</td></tr>
<tr><td>Fences</td><td>No turnout until fences maintained (operator responsibility unless otherwise specified)</td></tr>
</table>

[1] Deer and pronghorn

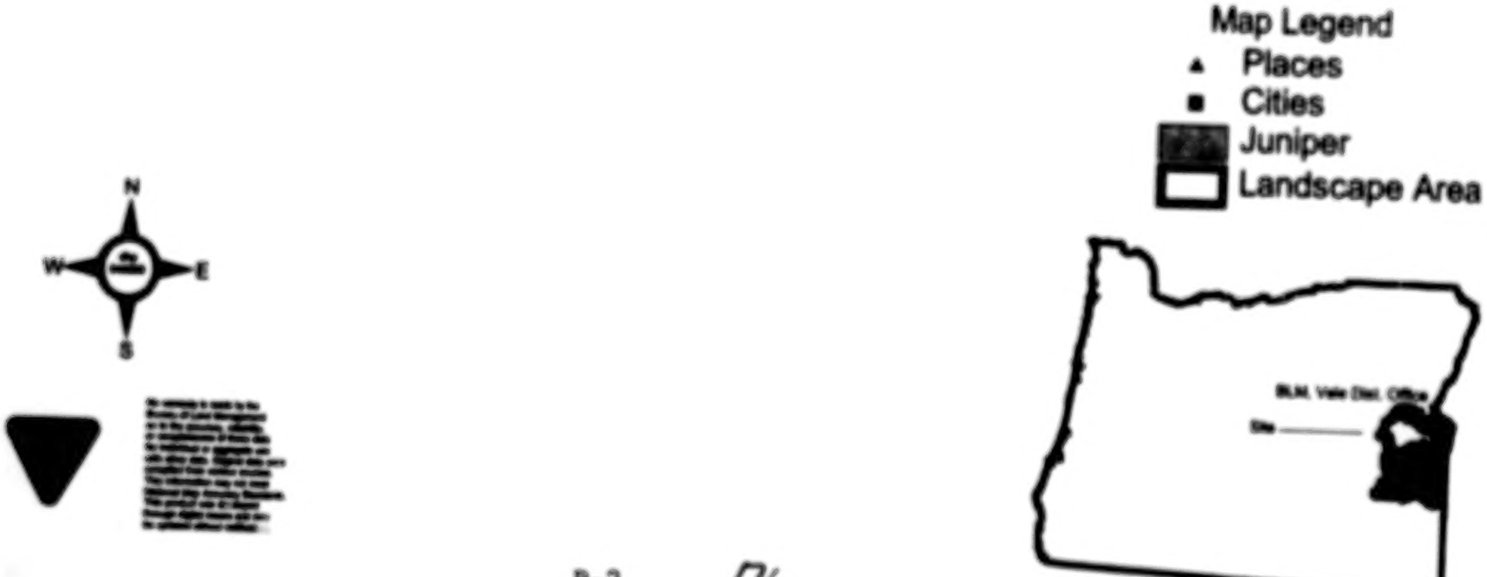
[2] Redband trout and spotted frog



Map 1. Bully Creek Landscape Area
and Ownership



Map 2. Bully Creek Landscape Area
Juniper Coverage



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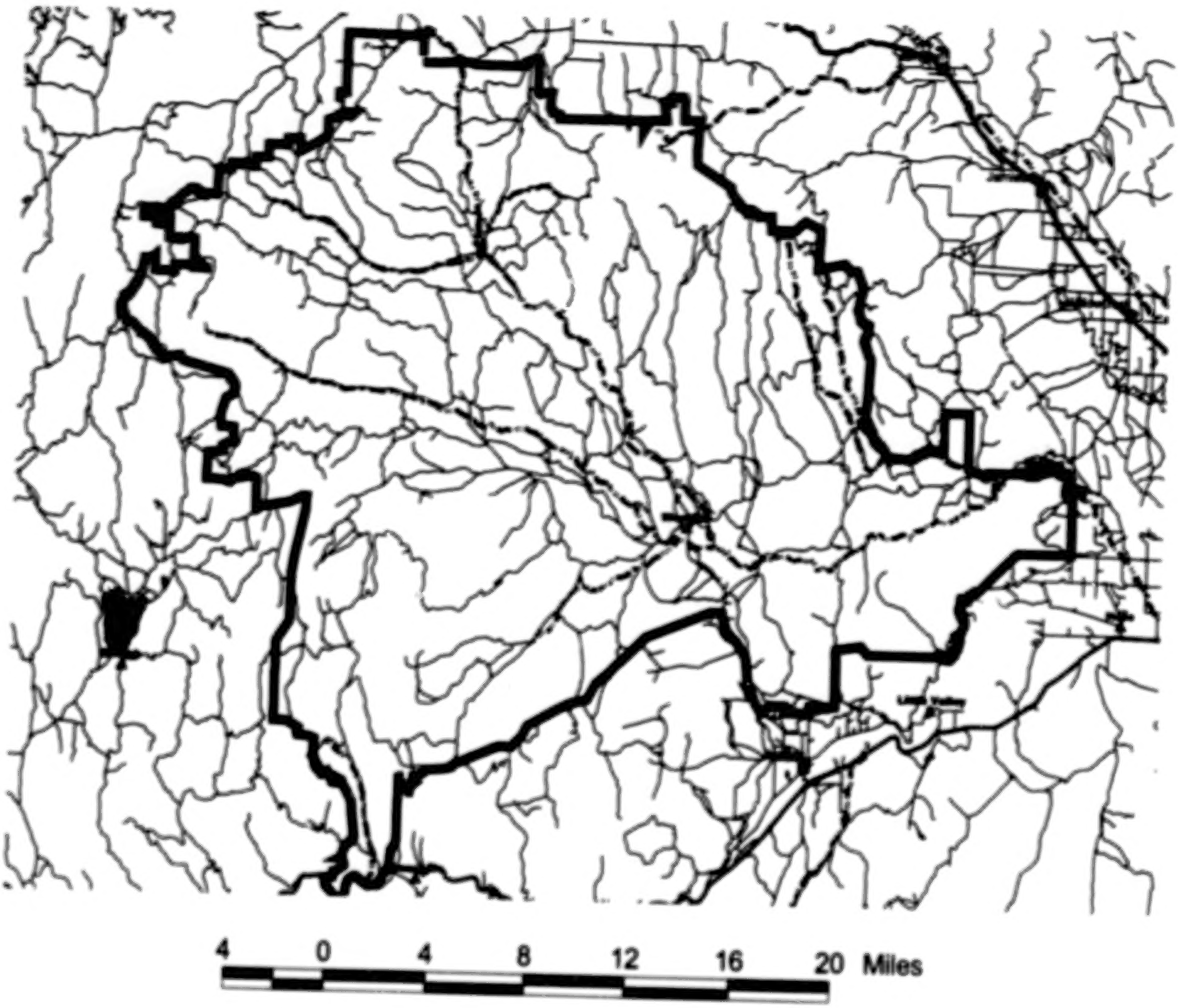

Map 3. Bully Creek Landscape Area
Perennial Drainages and Road System

Map Legend

▲ Places
■ Cities
Surface Water
Perennial Streams
US Hwy 20
US Hwy 26
Roads
Landscape Area

[illegible]

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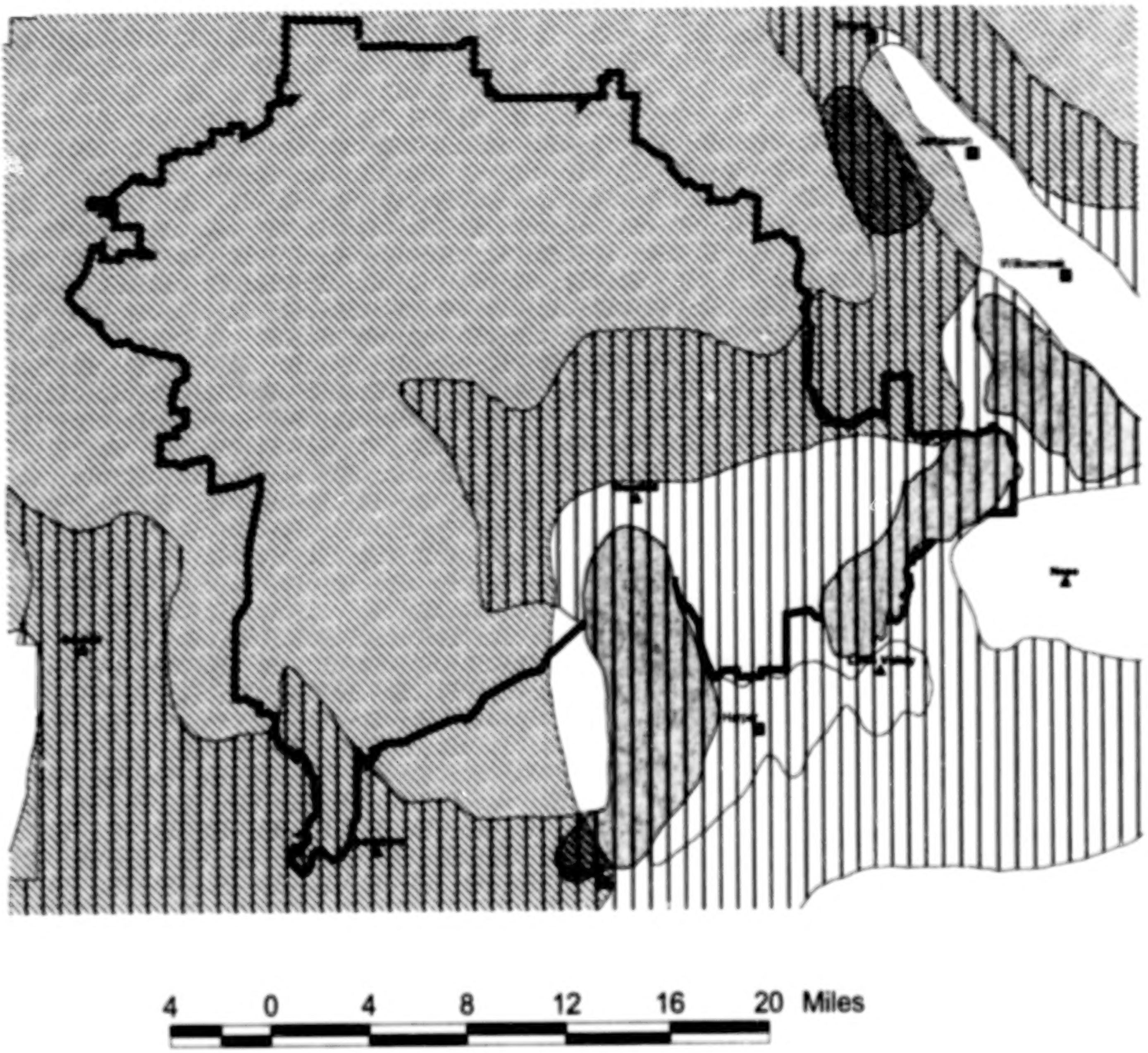
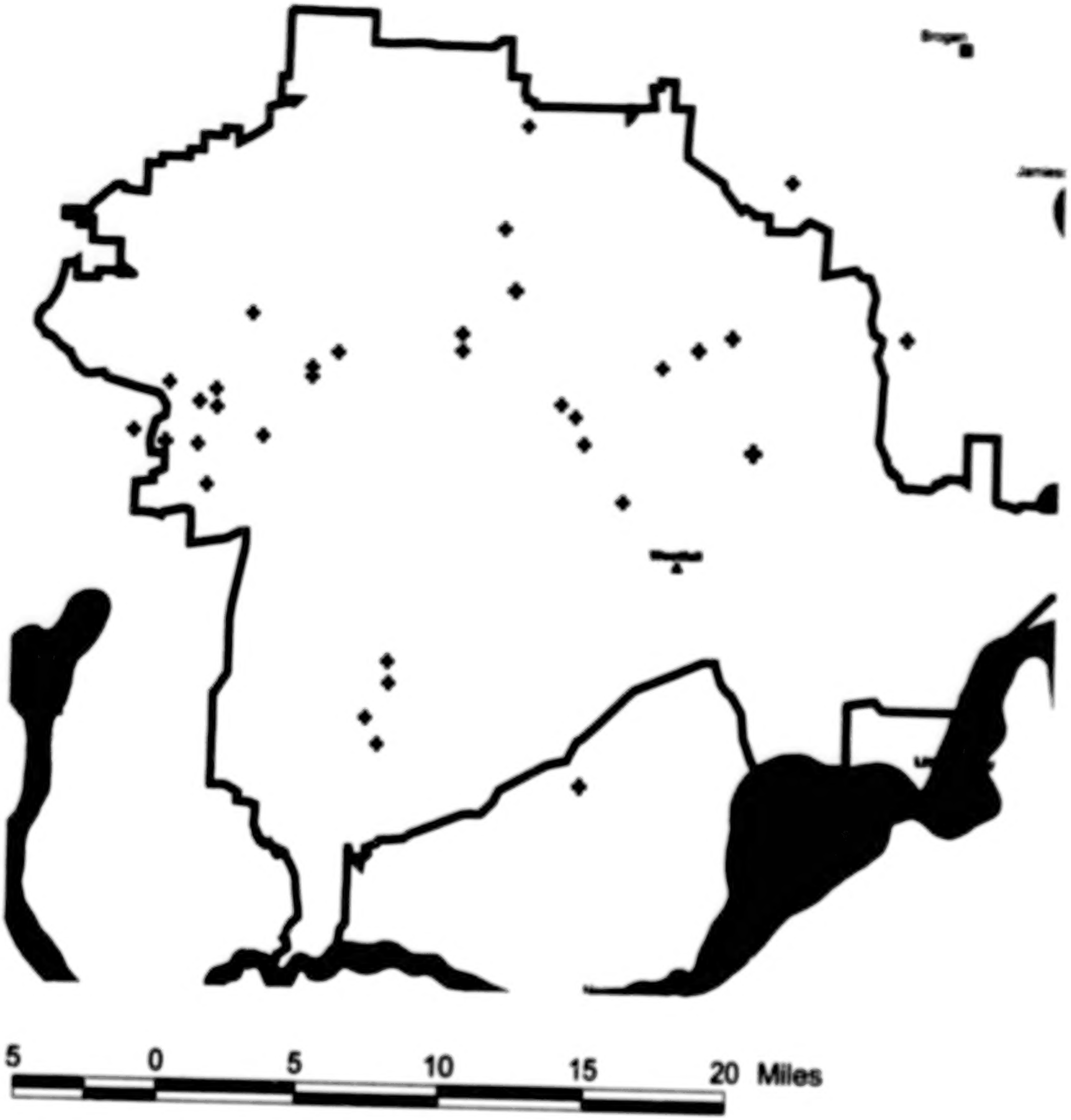
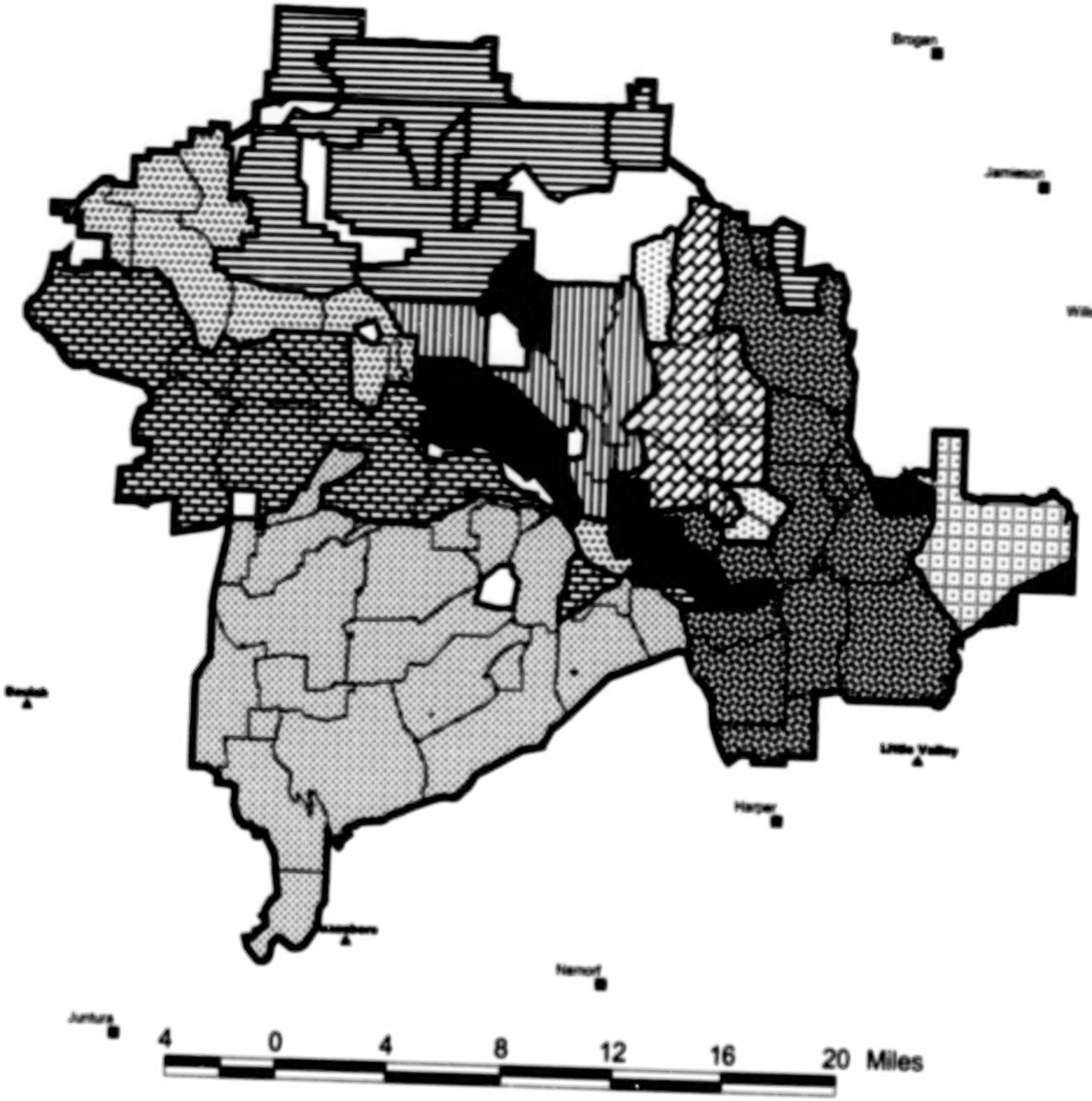


Map 4. Bully Creek Landscape Area
Big Game Winter Range

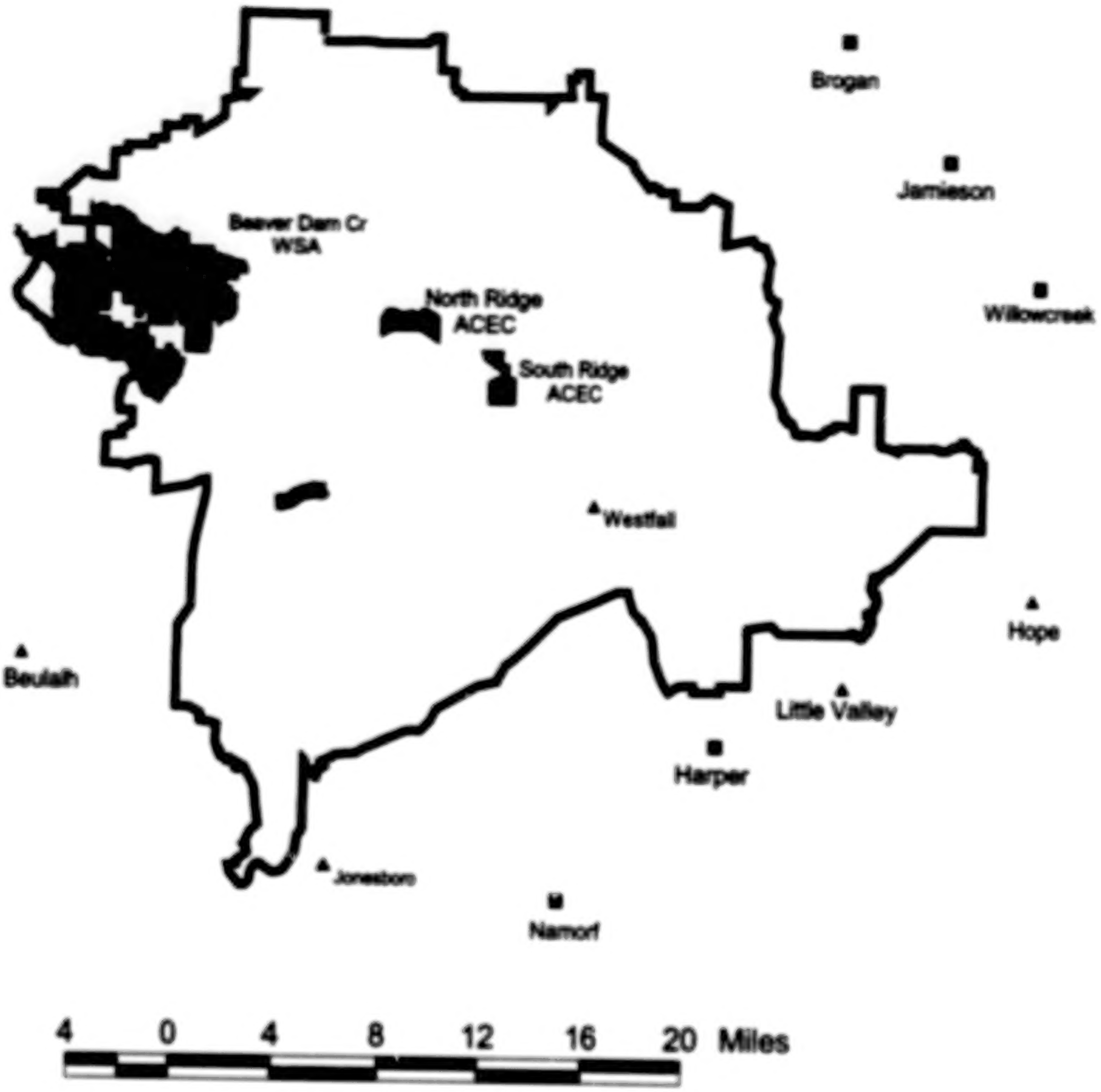
Map Legend
▲ Places
■ Cities
▥ Muledeer
▨ Elk
░ Antelope
☐ Landscape Area



Map 5. Bully Creek Landscape Area
Special Status Species



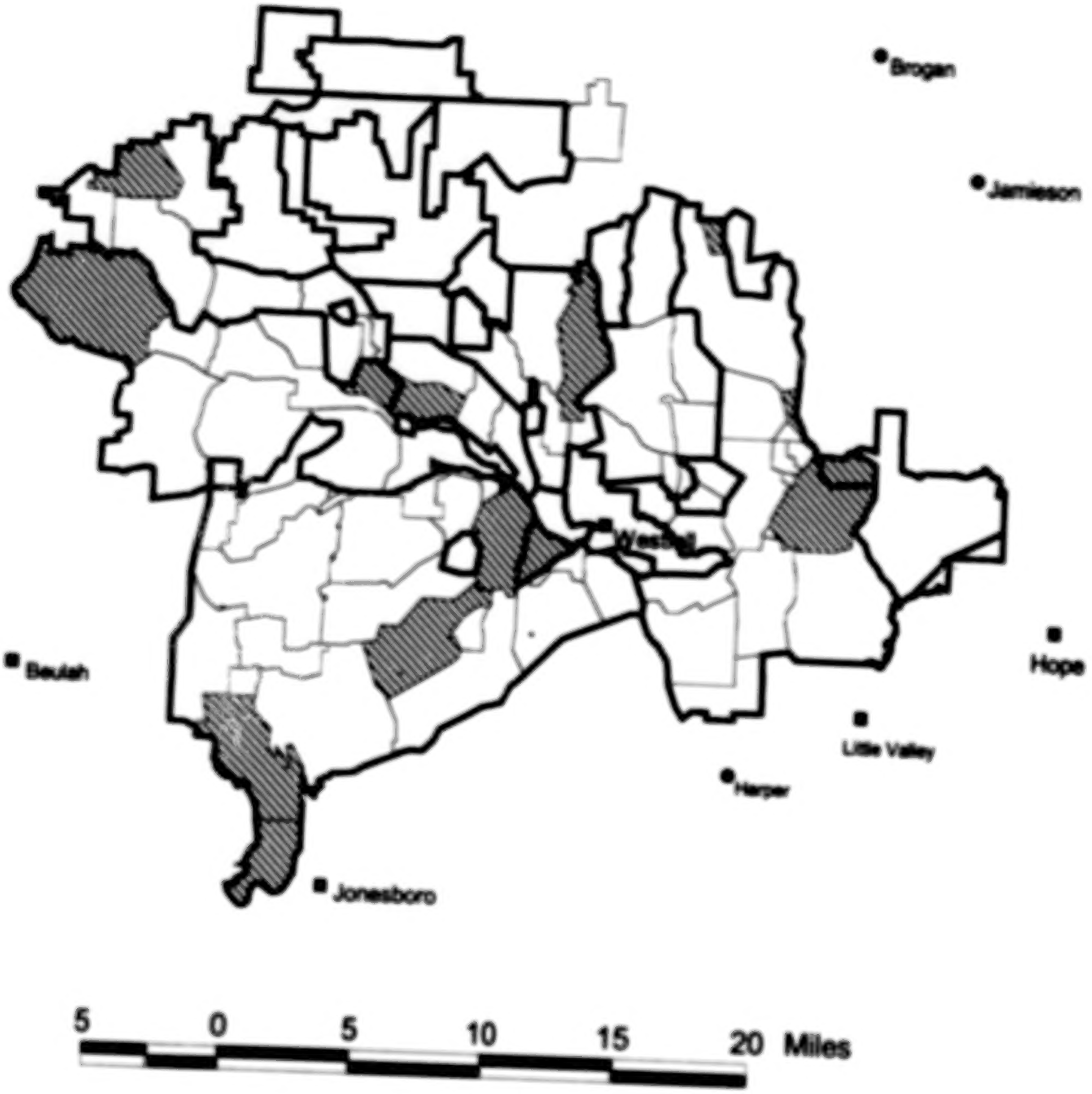
Map 6. Bully Creek Landscape Area
Allotments and Pastures



Map 7. Bully Creek Landscape Area
Special Management Areas

Map Legend

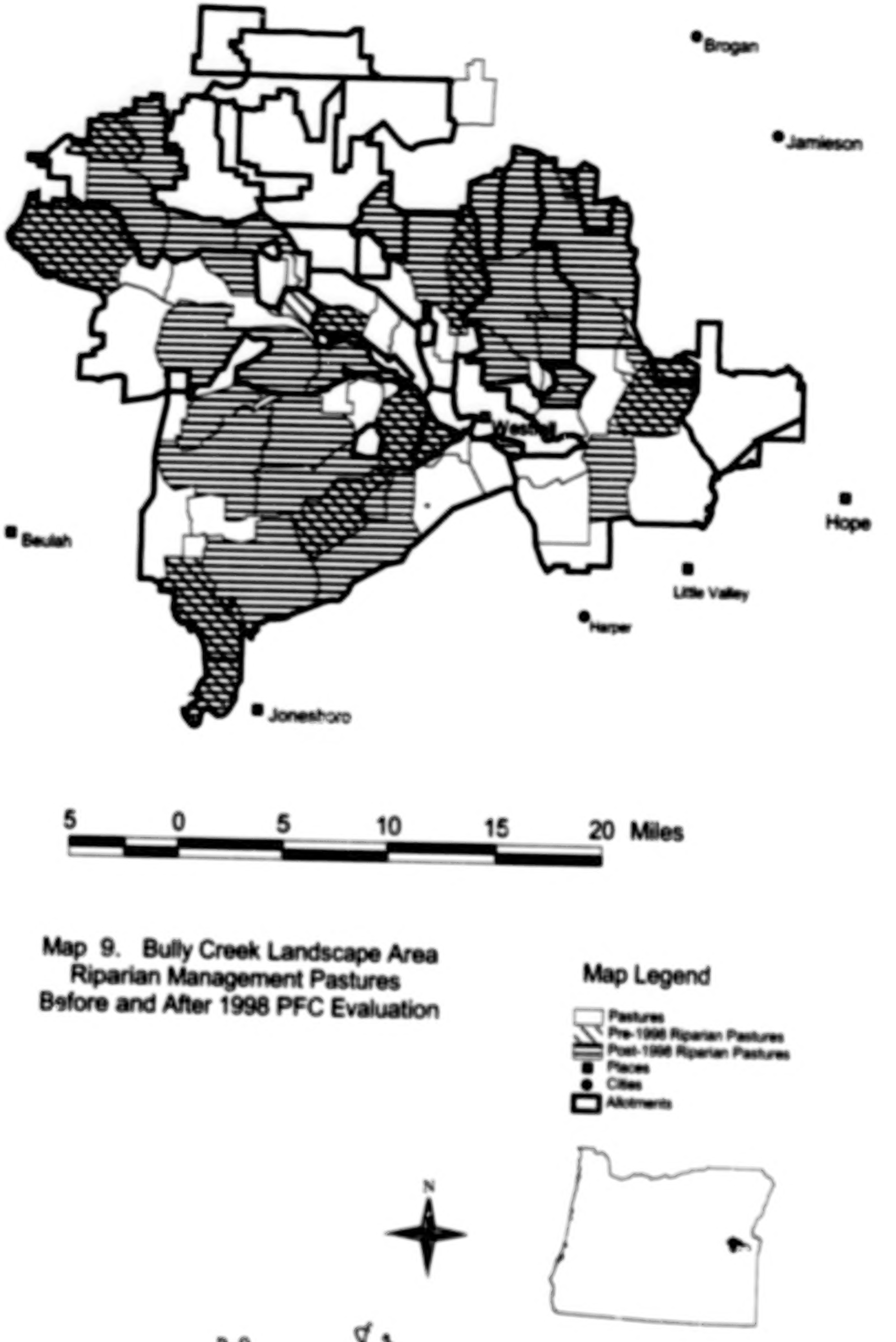
▲ Places
■ Cities
■ S Fork Indian Cr Study River
Beaver Dam Creek WSA
Proposed North/South Ridge ACECs
☐ Landscape Area



Map 8. Bully Creek Landscape Area
Riparian Management Pastures
prior to 1998 PFC Evaluation

Map Legend

■ Places
● Cities
▨ Pre-1998 Riparian Pastures
☐ Pastures
☐ Allotments



Map 9. Bully Creek Landscape Area Riparian Management Pastures Before and After 1998 PFC Evaluation

APPENDIX C
DRAFT 6-30-99
Allotment/Pasture Characterizations and Grazing Schedules

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Brian Creek	10215	36
Buckbrush	10218	39
Westfall	00227	39
Willow Basin	10222	43
Lava Ridge	10223	48
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C Allotments

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Scratch Post Butte	00228	55
Post Creek Individual	00244	55
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Clover Creek Individual	10210	56
West Clover Creek	10213	56

Acronyms and Abbreviations

ACEC - Area of Critical Environmental Concern
AMP - Allotment Management Plan
AUM - Animal Unit Month
C Allotment - Custodial
D - Downward trend
DRFC - Desired Range of Future Condition
EX - Experimental exclosure: excluded from grazing
FAR - Functioning at risk
FARD - Functioning at risk with downward trend
FARN - Functioning at risk with not apparent trend
FARU - Functioning at risk with upward trend
FFR - Fenced Federal Range
FY - Fiscal Year
I Allotment - Improve
M Allotment - Maintain
MFP - Management Framework Plan
MRA - Malheur Resource Area
N - No
NA - Not applicable
ND - No data
NF - Non functional
NR - No riparian present
ODEQ - Oregon Department of Environmental Quality
ODFW - Oregon Department of Fish and Wildlife
PFC - Proper functioning condition
RNA - Research Natural Area
RSEX - Reservoir exclosure

S - Static trend
SD - Static to downward trend
SEORMP - Southeastern Oregon Resource Management Plan
SU - Static to upward trend
SRH - Standards For Rangeland Health
Standards For Rangeland Health 1: Watershed Function/Uplands - Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate and landform.
Standards For Rangeland Health 2: Watershed Function/Riparian-Wetland Areas - Riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate and landform.
Standards For Rangeland Health 3: Ecological Processes - Healthy, productive and diverse plant and animal populations and communities appropriate to soil, climate and landform are supported by ecological processes of nutrient cycling, energy flow and the hydrologic cycle.
Standards For Rangeland Health 4: Water Quality - Surface water and groundwater quality, influenced by agency actions, complies with State Water Quality Standards.
Standards For Rangeland Health 5: Native, T&E and Locally Important Species (Wildlife) - Habitats support healthy, productive and diverse populations and communities of native plants and animals (including special status species and species of local importance) appropriate to soil, climate and landform.
STEX - Stream exclosure: excluded from livestock grazing
U - Upward trend
WSA - Wilderness Study Area
Y - Yes

Data Review Process

The following is a characterization of all I, M and C category allotments within the landscape area. The characterizations are based on data collected during the 1998 field season and other existing and historic data known and/or collected during past inventory and monitoring efforts. Management actions (LAMP Section VII, Tables 8 and 9) and LAMP (allotment/pasture) objectives were developed from issues of concern, Standards for Rangeland Health (SRH) and trend. Data collected for the SRH which indicated less than properly functioning condition was determined not to meet the standard. All data and assessment summaries are on file in the Vale District.

The Five-Step Process

1 - What are the past management objectives?
    Have objectives been met?
2 - Are we meeting the SRH?
    Yes ... then move to step 3
    No ... then why (identify probable/potential causes and effects)
3 - What is upland trend? What is riparian trend?
    Identify any problems/concerns
4 - What are the Issues of Concern?
    Specify each issue rated "H" for high
5 - Are past allotment/pasture specific objectives still applicable? Do new objectives need to be added?

LAMP Objectives

BLM is required to implement the five SRH (LAMP: Table 2, page 7) that define minimum resource conditions to be achieved and maintained for public rangelands. LAMP objectives have been designed to meet these standards. Specific objectives will be defined for each pasture and will replace past objectives. These objectives will indicate a desire to maintain or improve the condition of applicable communities.

Riparian/Wetland Vegetation Communities-
Maintain (if meeting SRH) or improve (if not meeting SRH)

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riparia vegetation, habitat diversity, and associated watershed function to achieve healthy and productive riparian/wetland areas and achieve water quality standards for beneficial uses as established by ODEQ.

Individual Seedings - One or more of the following objectives could be applied to a seeded area:
1) Improve the productivity and vigor of the non-native seeding while maintaining the structural composition and improving species diversity of vegetation communities consistent with DRFCs identified in the land use plan.
2) Improve the productivity and vigor of the non-native seeding while improving the structural composition and improving species diversity of vegetation communities consistent with DRFCs identified in the land use plan.
3) Maintain the productivity and vigor of the non-native seeding while maintaining the structural composition and improving species diversity of vegetation communities consistent with DRFCs identified in the land use plan.
4) Improve the ecological condition of the non-native seeding by implementing actions to enhance the dominance of native perennial grass species while maintaining the structural composition and improving species diversity of vegetation communities consistent with DRFCs in the land use plan.

Upland Vegetation Communities -
Maintain (if meeting SRH) or improve (if not meeting SRH) the health, structure and diversity of upland native vegetation within site capabilities.

Weeds -
Control proliferation of existing noxious weeds on an annual basis.

Wildlife -
Maintain (if meeting SRH) or improve (if not meeting SRH) wildlife habitats, ensuring spacial distribution of native plant communities and animal habitats across the landscape with a density and frequency of species suitable to ensure reproductive capability and sustainability.

GRAZING SCHEDULE FLEXIBILITY

Criteria for flexibility of livestock turnout prior to 4/1 or extension of use beyond 10/31 is identified in Appendix A Table 11.

Livestock move dates may vary from the defined schedule(s) up to (4) days on either side of the identified pasture move date.

Move dates outside of these general limits of flexibility due to climatic conditions, exceeding identified utilization levels (LAMP: Table 7, page 28) or other factors must be considered by BLM staff prior to authorization. Move dates outside the general limits of flexibility must meet resource management objectives to be authorized.

LIVESTOCK EXCLUSION AREAS

Past Malheur Resource Area (MRA) planning decisions or agreements have excluded livestock from grazing public land for the specific purpose of protecting resource values or facilities from livestock impacts. Examples include, but are not limited to, identified riparian vegetation communities adjacent to streams, reservoirs, springs, and wetlands; developed water sources; special status species habitat; ACEC's; recreation sites; archaeological sites; research and study plots; and administrative sites. The following exclusion areas are located within the Bully Creek landscape area:

Allotment #2 -

Cottonwood Wildlife Stream Exclosure- 497 acres
0201 Riparian Stream Exclosure - 446 acres

Under this landscape area management plan, the above exclusion areas may be combined into the Rocke pasture.

Allotment #3 -

- N. Black Canyon. Pasture -
  - Pence Spring Fence Exclosure - 2 acres
- Indian Creek Pasture -
  - South Fork Indian Creek Spring Exclosure - No data
- W. Cottonwood Seeding -
  - Allotment #3 Reservoir Exclosure - 11 acres
- Indian Creek Pasture -
  - Zotto Reservoir Exclosure - 38 acres

Richie Flat Allotment -

- E. Log Creek Pasture -
  - Reds Creek 3-Way Upland Exclosure - No data

The "No data" entries need to have future management identified with options including maintaining them as exclusion areas or dropping them with recommendations for new management.

How to Read the Tables in Appendix C

Allotment Name & Number [1]

Operator name [2] Active AUMs [3] Suspended AUMs [4] Exchange of Use [5] Season of Use [6]

[1] An allotment name and number is given to an area of land designated and managed for grazing of livestock.

[2] The operator name identifies the individual(s) with a grazing preference and livestock grazing permit in the given allotment.

[3] An active AUM (animal unit month) means the amount of forage necessary for the sustenance of one cow or its equivalent for a period of 1 month.

[4] Suspended AUMs refers to the temporary withholding from active use, through a decision issued by the authorized officer or by agreement, of part or all of the permitted use in a grazing permit or lease.

[5] Exchange of use is an agreement that may be issued to an operator who owns or controls lands that are unfenced and intermingled with public lands in the same allotment when use under such an agreement will be compatible with the existing livestock operations. An exchange of use grazing agreement may be issued to authorize use of public lands to the extent of the livestock carrying capacity of the lands offered in exchange of use. No fee is charged for this grazing.

[6] Season of use refers to the operator's authorized beginning and ending dates of grazing use by allotment.

Pasture [1]	Standards for Rangeland Health [2]									Trends [8]		
	1 [3]	2 [4]					3 [5]	4 [6]	5 [7]	Upland Long-term [9]	Upland Short-term [10]	Riparian Overall [11]
		PFC	FARU	FARN	FARD	NF						
		(miles)										

[1] Data collected for standards for rangeland health are reported on a pasture by pasture basis. All pastures are listed for the above table.

[2] The Standards for Rangeland Health (Standards), are based on the Fundamentals of Rangeland Health. These fundamentals combine the basic precepts of physical function and biological health and elements of law relating to water quality, and plant and animal populations and communities. Standards are expressions of the physical and biological condition or degree of function necessary to sustain healthy rangeland ecosystems. (The five standards are defined below). When more than one assessment was recorded in a pasture the seeding assessment is reported first, and than the assessment for the native portion. A third assessment rating shows that an addition location was evaluated, usually in native range.

[3] Standard 1 assesses whether the upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform. Ratings are reported as proper functioning condition (PFC), functioning at risk upward (FARU), functioning at risk downward (FARD), non-functioning (NF), or no data (ND).

[4] Standard 2 assesses whether riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform. Ratings of PFC, FARU, FARN, FARD and NF are reported in riparian stream miles.

[5] Standard 3 assesses whether healthy, productive, and diverse plant and animal populations and communities appropriate to soil, climate, and landform are supported by ecological processes of nutrient cycling, energy flow, and the hydrologic cycle. Ratings are reported the same as for Standard 1.

[6] Standard 4 assesses whether surface water and groundwater quality, influenced by agency actions, complies with State water quality standards. Ratings for Standard 4 were derived using input from ratings for Standards 1, 2, and 3. Ratings are reported the same as for Standards 1 and 3.

[7] Standard 5 assesses whether habitats support healthy, productive, and diverse populations and communities of native plants and animals (including special status

species and species of local importance) appropriate to soil, climate, and landform. Ratings are reported the same as for standards 1, 3, and 4.

[8] Trends refer to the direction of change in ecological indicators observed over time.

[9] Upland long-term trend refers to a comparison between the first data reading and the most current reading (1998).Trend is described here as upward (U), downward (D), static (S), static to upward (SU), static to downward (SD), not apparent (NA), or no data (ND).

[10] Upland short-term trend refers to a comparison between the last reading and the most current reading (1998). Trend is described the same as for upland long-term trend.

[11] Overall riparian trend was determined by comparing aerial photos, ground photo points and using professional judgement (see p. 25).

Pasture [1]	**Reason for not meeting Standards 1-5** [2]		**Allotment Management Plan Grazing Schedule** [5]			**Proposed Grazing Schedule** [6]		
	Caused by Current Grazing[3]	Caused by Other Factors [4]	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3

[1] Pastures included in this table are less than the total pastures in the allotment for different reasons. For example some pastures are not part of the identified grazing system, some are exclosures, and others may be classified as Fenced Federal Range. Pastures that are not listed in the Grazing Schedule table are FFR, C allotments, exclosure pastures. Fenced Federal Range are non-intensive management areas or custodial pastures where BLM does not specify livestock numbers, kinds of animals and period of use provided that detrimental impacts do not occur to public lands. FFR areas consist of small tracts of public land that intermingle with large tracts on private land. Capability for grazing management is limited and little public resource values exist.

[2] Reasons for not meeting Standards 1-5 identifies if the current grazing system was determined to be the cause of failing to meet the Standard in a pasture.

[3] Caused by Current Grazing identifies which Standards (1-5) failed to meet PFC due to the current grazing practices. Current grazing is defined below. Upon determination, through assessment or monitoring by experienced professionals and /or interdisciplinary teams, that existing grazing management needs to be modified to fulfill the Fundamentals of Rangeland Health, the authorized officer shall take appropriate action as soon as practical but not later than the next grazing year.

[4] Caused by Other Factors identifies which Standards (1-5) failed to meet PFC due to a factor other than the current grazing practices, including historical grazing practices.

[5] Current Grazing Schedule defined here refers to the grazing system as defined in the AMP or revised by the AMP Evaluation.

[6] Proposed Grazing Schedule refers to the grazing schedule as implemented by the LAMP. Adjustments were made within pastures not meeting Standards 1-5 in order to make progress towards meeting the Standards.

Bully Creek Allotment 00132

Allotment Summary: No past allotment evaluations have been completed for this allotment.

Past Objectives: Past objectives recommended winter browse improvement and increasing the palatable browse species reproduction by 20% from the existing 5% by 1990. The long term objective (by 1997) was to attain late or climax condition on a majority of the area in each pasture (1982 AMP).

New Objectives: The long-term objective is to improve ecosite condition to attain middle ecological condition or DRFCs. Apply wildlife (improve) and upland (maintain) objectives.

Operator Information:

Operator Name	Active AUMs	Suspended AUMs	Exchange of Use	Season of Use
J.R. d & Livestock	980	0	253	3/1-4/15;10/15-12/15

Data Summary

Pasture	Standards for Rangeland Health									Trends		
	1	2					3	4	5	Upland Long-term	Upland Short-term	Riparian Overall
		PFC	FARU	FARN	FARD	NF						
		(miles)										
Bully Creek	PFC						PFC		ND	SU	ND	NR

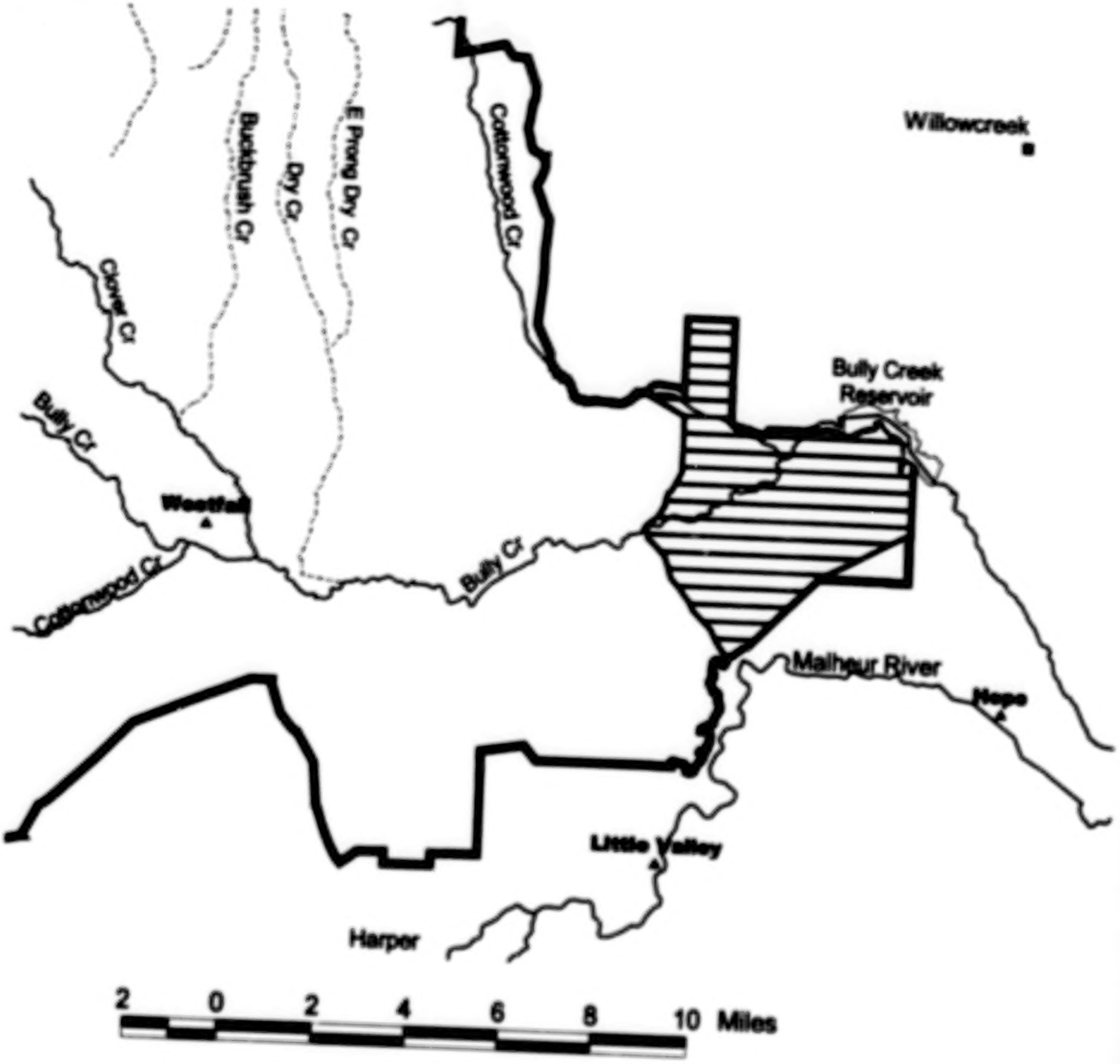
Grazing Schedule

Pasture	Reason for not meeting Standards 1-5		Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule		
	Caused by Current Grazing	Caused by Other Factors	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Bully Creek			3/1-4/15 10/15-12/14	3/1-4/15 10/15-12/14	3/1-4/15 10/15-12/14	10/15-12/14 3/1-4/15	10/15-12/14 3/1-4/15	10/15-12/14 3/1-4/15

Pasture Summary

Bully Creek (01)

The upland watershed function and ecological processes are in properly functioning condition. The condition of wildlife habitats are unknown. This pasture is critical deer and pronghorn winter range. Lack of bitterbrush recruitment may be due to past livestock use (ODFW, personal communication 1999). The long-term upland trend has shown a slight improvement. Annual rangelands, deer spring and winter range and fisheries habitat are issues of concern, particularly in the middle of the pasture near Bully Creek Reservoir.



Map 1. Bully Creek Landscape Area
Bully Creek Allotment 00132

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Cottonwood Creek Allotment 10140

Allotment Summary: This allotment, consisting of one pasture, is managed with the Cottonwood Mountain Allotment (20102). It was evaluated with the Cottonwood Mountain Allotment in 1989.

Past Objectives: The past objective was to improve the riparian areas. Condition class was identified as early (1990 AMP).

New Objectives: The long-term objective is to improve ecosite condition to attain middle ecological condition or DRFCs. Apply riparian (maintain) and upland (maintain) objectives.

Operator Information:

Operator Name	Active AUMs	Suspended AUMs	Exchange of Use	Season of Use
Tom McElroy	38	49	ND	Winter/early spring

Data Summary

Pasture	Standards for Rangeland Health									Trends		
	1	2					3	4	5	Upland Long-term	Upland Short-term	Riparian Overall
		PFC	FARU	FARN	FARD	NF						
		(miles)										
Cottonwood Creek	PFC	0.25					PFC	Y	ND	ND	ND	U

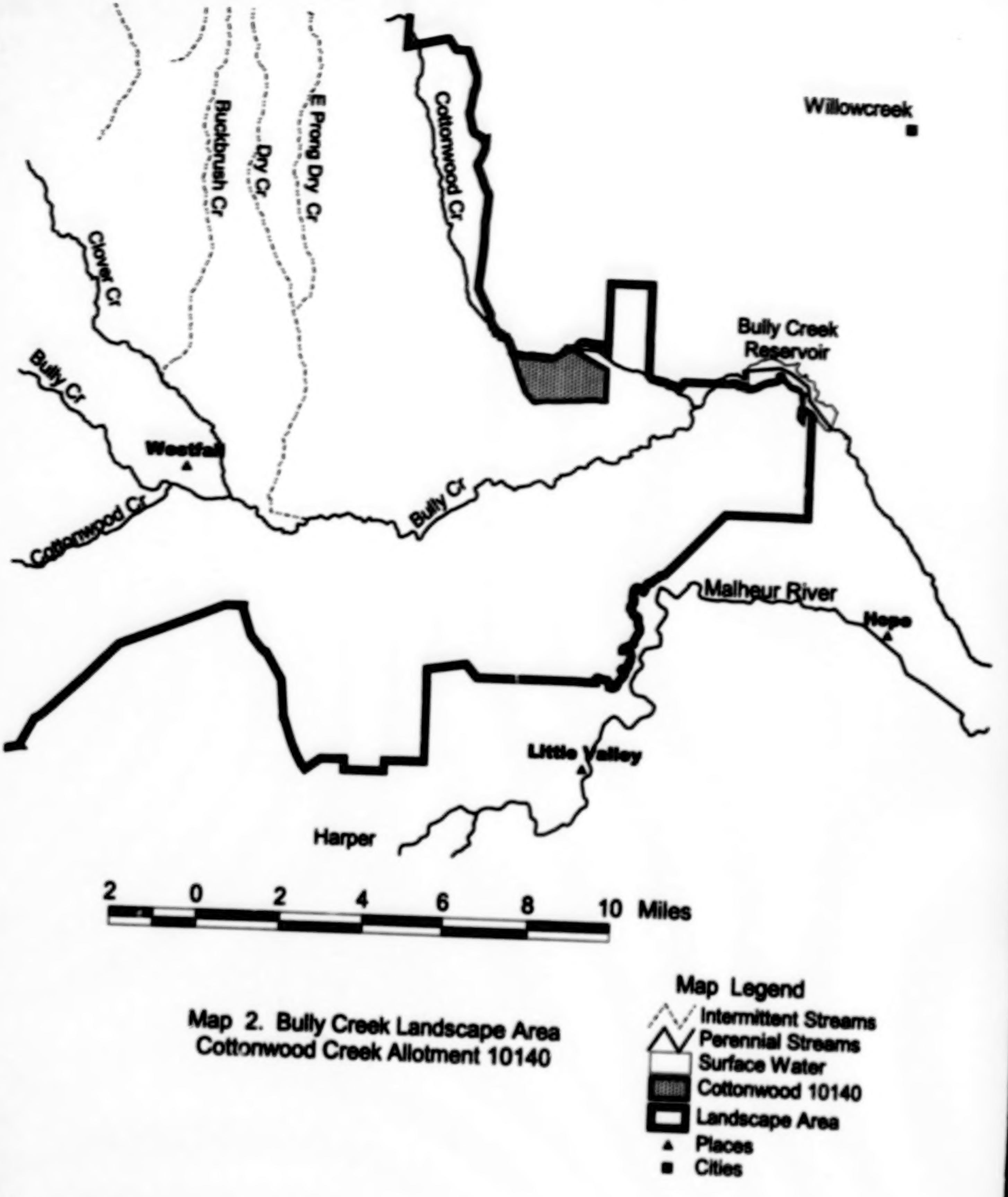
Grazing Schedule

Pasture	Reason for not meeting Standards 1-5		Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule		
	Caused by Current Grazing	Caused by Other Factors	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Cottonwood Creek			winter/early spring	winter/early spring	winter/early spring	continue current grazing		

Pasture Summary

Cottonwood Creek (01)
The riparian habitats are properly functioning but are in early seral stage. Information regarding the condition of other SRH are unknown.

Riparian trend and SRH indicate that the pasture is meeting the riparian objective.



Map 2. Bully Creek Landscape Area
Cottonwood Creek Allotment 10140

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Allotment #2 (10201)

Allotment Summary: Evaluations of this allotment were conducted in 1988 and 1994. Since the last evaluation in 1994 the livestock operators have chosen not to run at full Active AUM levels. Analysis of the current data collected needs to take this point into consideration when drawing conclusions. Trends in the riparian areas have been and are an ongoing issue. The downward riparian trend in North Bully Creek pasture has been reversed since the last evaluation in 1994. Trends and condition of seedings and the lower elevation native ranges also remain problematic.

Past Objectives: Objectives in this allotment have been developed at the pasture level.

New Objectives: See individual pasture summaries.

Operator Information:

Operator Name	Active AUMs	Suspended AUMs	Exchange of Use	Season of Use
Indian Creek Ranch	4551	819	0	4/1-10/31
Ted Linville	205	5	98	4/1-10/31
J.R. Land & Livestock	2724	493	0	4/1-10/31

Data Summary

Pasture	Standards for Rangeland Health									Trends		
	1	2					3	4	5	Upland Long-term	Upland Short-term	Riparian Overall
		PFC	FARU	FARN	FARD	NF						
		(miles)										
Mesa Brush Control	PFC						FAR		NF	D	SD	NR
Harper Seeding	PFC/PFC						FAR/PFC		FAR/PFC	D	D	NR
North Bully Creek	NF	3.25	0.25				NF	N	FAR	S	S	U
Wildhorse	FAR/PFC						FAR/FAR		ND	SU	SU	NR
South NG Seeding	FAR						FAR		FAR	D	SU	NR
Bully Creek Seeding	FAR						FAR		FAR	D	S	NR
North NG Seeding	FAR/PFC	1.25	1.25				FAR/FAR	N	PFC/FAR	D	S	ND
Mountain	PFC/PFC	1.5	1	4.5	3.75	0.75	PFC/PFC	N	PFC/PFC	SD	SD	S, SD
NG Creek Riparian Exclosure	ND				1.25		ND	N	ND	ND	ND	D
Cottonwood Wildlife STEX	ND		1				ND	N	ND	ND	ND	ND
Holding	FAR						FAR		FAR	ND	ND	NR
Dry Creek	PFC/FAR						PFC/FAR		FAR/FAR	ND	ND	NR
Jordan FFR	ND						ND		ND	ND	ND	NR

Pasture	Standards for Rangeland Health									Trends		
FFR	ND		0.75				ND	N	ND	ND	ND	U
Bull Spring REX	ND						ND		ND	ND	ND	NR
NG Wildlife Area	ND						ND		ND	ND	ND	NR
NG Holding	ND		0.5				ND	N	ND	ND	ND	ND
Cottonwood Fire Rehab EX	ND		0.5				ND	N	ND	ND	ND	S, SD
North Bully Holding	FAR						FAR		FAR	ND	ND	NR
0201 Riparian STEX	FAR	1.0					FAR	N	FAR	ND	ND	U

Grazing Schedule

Pasture	Reason for not meeting Standards 1-5		Current Grazing Schedule			Proposed Grazing Schedule		
	Caused by Current Grazing	Caused by Other Factors	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Mesa Brush Control		3, 5	5/1-6/30	9/15-10/31	5/1-6/15	7/15-10/31	5/1-7/1	7/1-9/1
Harper Seeding		3, 5	5/1-6/30	9/15-10/31	5/1-6/1/5	7/15-10/31	5/1-7/1	7/1-9/1
North Bully Creek		1, 2, 3, 5	4/15-5/15	4/15-5/15	4/15-5/15	4/1-5/15	4/1-5/1	5/1-7/1
Wildhorse		1, 3	5/16-6/30	10/1-10/15	5/16-6/15	7/15-10/31	5/1-7/1	7/1-8/15
South NG Seeding		1, 3, 5	9/1-10/31	5/1-6/30	9/1-10/31	7/15-10/30	7/1-9/1	5/1-7/1
Bully Creek Seeding		1, 3, 5	4/1-4/30	4/1-4/30	4/1-4/30	7/15-10/30	7/1-9/1	4/1-5/1
North NG Seeding		1, 2, 3, 5	10/1-10/15	5/16-7/1	10/1-10/15	4/1-5/15	4/1-5/1	5/1-7/1
Mountain	2		7/1-9/30	7/1-10/15	6/16-9/30	5/15-7/15	9/1-10/31	9/1-10/31
Holding		1, 3, 5	4/1-4/30	4/1-4/30	4/1-4/30	4/1-5/15	7/1-9/1	4/1-5/1
Dry Creek		1, 3, 5	4/1-4/30	4/1-4/30	4/1-4/30	4/1-5/15	7/1-9/1	4/1-5/1
0201 Riparian STEX		2	ND	ND	ND	4/1-5/15	7/1-9/1	4/1-5/1

Pasture Summaries:

Pasture: Mesa Brush Control (01)/ Harper Seeding (02)
The Harper seeding is managed with Mesa Brush Control as one pasture. The fence once dividing the pastures has been removed.

Past Objectives: Maintain late ecosite condition.
New Objectives: The long-term objective is to improve ecosite condition to attain middle ecological condition or DRFCs in the native portion of

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the Harper seeding area and to attain late ecological condition or DRFCs in the rest of the pasture. Apply wildlife (improve), upland (improve) objective and seeding #2 objectives.

Data Summary: The upland watershed function is in, or making significant progress toward, properly functioning condition. Trend studies indicate that this pasture is not meeting the upland objective. Both long-term and short-term seeding trend is down in the Harper seeding pasture. Ecological processes are not functioning properly due to historic heavy livestock use (particularly from 1982 to 1987). Even though the pasture has been used only four times since 1990, the ecological condition is not improving. Whitetop and bur buttercup are dominating some areas due to a decreasing forb understory and annual rangeland species (medusahead, cheatgrass) are increasing. Wildlife habitats range from functioning where there are small portions of remnant native range to functioning-at-risk in transitional areas below the mesa with little forb/shrub diversity to not functioning at the top of the mesa where there are big flats dominated by whitetop, cheatgrass and other nonnative species. Issues of concern include annual rangelands (Medusahead rye), recreation (OHV use), special status species (sage grouse numbers are very low due to poor habitat conditions), redband trout.

Pasture: North Bully Creek (03)

Past Objectives: Improve early ecological condition to middle ecological condition within 15 years. Improve riparian management on Bully Creek.

New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply wildlife (improve), riparian (maintain) and upland (improve) objectives.

Data Summary: The upland watershed function, ecological processes and wildlife habitats are not functioning properly due to historic heavy grazing which resulted in sagebrush monocultures without grass/forb understory, exposed soils and increasing populations of weedy species. Upland trends are not moving toward meeting the upland objective. Riparian habitats are functioning properly but are in an early seral stage. A small tributary to Bully Creek needs improvement. Bully Creek, from the reservoir to Westfall, is a 303(d) listed stream and, as such, is not properly functioning in terms of water quality (bacteria). Issues of concern include annual rangelands and wildlife (understory is not adequate for deer and pronghorn).

Pasture: Wildhorse (04)

Past Objectives: Improve early ecological condition to middle ecological condition within 15 years. Attain an upward trend in upland vegetative communities.

New Objectives: The long-term objective is to improve ecosite condition to attain middle ecological condition or DRFCs. Apply wildlife (improve) and upland (improve) objectives.

Data Summary: The upland watershed function, ecological processes and wildlife habitats are not functioning properly due to historic heavy grazing and increased fire frequency resulting in high concentrations of annual and weedy species. Upland trends indicate the pasture is progressing towards meeting objectives.

Sagebrush growth has been limited by aroga month kill in part of the pasture. Annual rangelands and wildlife (deer and pronghorn winter range) are issues of concern.

Pasture: South NG Seeding (05)

Past Objectives: Mainiain late ecological condition for seeding areas. Minimize accumulation of wolf plants from ungrazed crested wheatgrass plants. Maximize availability of fall green-up for wildlife.

New Objectives: The long-term objective is to improve ecosite condition of the native vegetation communities to attain middle ecological condition or DRFCs. Apply upland (improve), wildlife (improve) and seeding #1 objectives.

Data Summary: The upland watershed function, ecological processes and wildlife habitats are not functioning properly due to historic heavy grazing resulting in stream flow pattern changes, soil crusting, changes in cover and surface litter, lack of species diversity and weed invasions. The long-term seeding trend is not meeting the past objective for ecological condition while the short-term trend shows some recent stability. It is unknown if the pasture is meeting the fall green-up objective. Wildlife (deer and pronghorn winter range) is an issue of concern.

Pasture: Bully Creek Seeding (06)
Past Objectives: Improve early ecological condition of seeding areas to middle ecological condition within 15 years. Minimize wolf plants. Maximize availability of fall green up regrowth for wildlife.
New Objectives: The long-term objective is to improve ecosite condition of the native vegetation communities to attain middle ecological condition or DRFCs. Apply upland (improve) wildlife (improve) and seeding #2 objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are not functioning properly due to historic grazing (rested 6 out of last 7 years), historic and current diatomite exploration/mining (in Ring Butte area only) and erodible soils. Bare ground is common with evidence of sheet erosion. Road use, aircraft landing strips and mineral development east of the current operation have exposed soils to wind erosion inhibiting seed germination. There is a high concentration of sagebrush and lack of species diversity with a cover increase of two feet on crested wheatgrass between 1981-1987. This pasture is not meeting ecological condition and the fall green-up objective. Open spaces between shrubs are vulnerable to weeds which are invading from adjacent agricultural fields. Wildlife (winter habitat for deer) and weeds are issues of concern.

Pasture: North NG Seeding (07)
Past Objectives: Maintain late ecological condition for seeding areas. Minimize accumulation of wolf plants. Maximize availability of fall green-up for wildlife.
New Objectives: The long-term objective is to improve ecosite condition of the native vegetation communities to attain middle ecological condition or DRFCs. Apply riparian (improve), upland (improve) and seeding #2 objectives.
Data Summary: The upland watershed function, ecological processes, wildlife habitats and one riparian system are not functioning properly due to historic heavy grazing in the seeded portion of the pasture. This has resulted in soil movement, stream channel instability and reduced grasses/forbs. The upland watershed function and wildlife habitats in the native portion of the pasture are functioning with adequate sagebrush cover. The long-term seeding trend is not meeting the objective for ecological condition while the short-term trend shows some stability. It is unknown if the pasture is meeting the fall green-up objective. Wildlife (deer and pronghorn winter range) and special status species (sage grouse lek nearby) are issues of concern.

Pasture: Mountain (08)
Past Objectives: Improve from middle ecological condition to late ecological condition within 15 years. Attain an upward trend in vegetative communities.
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply wildlife (maintain), riparian (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are functioning properly. Upland trends indicate that the pasture is not meeting the upland objective (½ to 1 foot loss in bluebunch wheatgrass at one upland trend plot). The riparian system is not functioning properly due to current and historic grazing (season of use), influence of the road on the riparian and impacts from big game (aspen and mountain shrub stands are declining). Distribution and numbers of livestock may be contributing. Cultural resources, fish (redband trout at the top of Cottonwood Creek) and special status species (sage grouse leks) are issues of concern.

Pasture: Holding (11)
Past Objectives: Improve early ecological condition to middle ecological condition within 15 years.
New Objectives: The long-term objective is to improve ecosite condition to attain middle ecological condition or DRFCs. Apply wildlife (improve) and upland (improve) objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are not functioning properly due to historic heavy grazing. It is unknown if the pasture is meeting the upland objective. Annual rangelands and fisheries (fish and frogs) are issues of concern.

Pasture: Dry Creek (12)
Past Objectives: Improve early ecological condition to middle ecological condition within 15 years.

New Objectives: The long-term objective is to improve ecosite condition to attain middle ecological condition or DRFCs. Apply wildlife (improve), upland (improve).
Data Summary: The upland watershed function, ecological processes and wildlife habitats are not functioning properly due to historic heavy grazing use in the native vegetation communities portions of the pasture (limited native grasses/forbs). It is unknown if the pasture is meeting the upland objective due to the lack of trend data. Wildlife (deer and pronghorn winter range), weed invasion and erosion are issues of concern.

Miscellaneous Pastures

*NOTE - The Cottonwood Wildlife Stream Exclosure (10)and the 0201 Riparian Stream Exclosure (20) are being recommended to be managed as one pasture called Rocke Pasture.

Pasture: NG Creek Riparian Exclosure (09)
Past Objective: None
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply wildlife (improve), riparian (improve) and upland (improve) objectives.
Data Summary: Refer to the comments for Mountain pasture (08). Riparian habitats are not functioning properly due to historic and current grazing trespass. Wildlife (deer, elk and pronghorn winter range), special status species (near sage grouse lek) and recreation (high use area resulting in habitat degradation) are issues of concern.

Pasture: Cottonwood Wildlife Stream Exclosure (10)
Past Objective: None
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply wildlife (improve) and riparian (improve) objectives.
Data Summary: It is unknown if upland watershed function and ecological processes are functioning properly. Riparian habitats are not functioning properly due to historic and current heavy grazing by livestock. The fences of the exclosure are not functioning resulting in grazing trespass from FFR on the west side of the pasture. No issues of concern have been identified in this pasture.

Pasture: Jordan FFR (13)
Past Objective: None
New Objectives: The long-term objective is to improve ecosite condition to attain middle ecological condition or DRFCs. Apply riparian (improve) and upland (improve) objectives.
Data Summary: Riparian habitats (3/4 mile at FARU) are not functioning properly. Annual rangelands is the issue of concern.

Pasture: FFR (14)
Past Objective: None
New Objectives: The long-term objective is to improve ecosite condition to attain middle ecological condition or DRFCs. Apply riparian (improve) and upland (improve) objectives.
Data Summary: Riparian habitats are not functioning properly due to the control of natural water flows (upstream irrigation practices on private land hay fields). BLM may not be able to improve the riparian areas due to the lack of control of private irrigation practices on adjoining lands which influence riparian growth in this pasture. Issues of concern include annual rangelands.

Pasture: Bull Spring Riparian Exclosure (15)
No data.

Pasture: NG Wildlife Area (16)
Past Objective: None
New Objective: None
Data Summary: This pasture was never constructed and is being grazed as part of the South NG seeding (05).

Pasture: NG Holding (17)
Past Objectives:
New Objectives: The long-term objective is to improve ecosite condition to attain middle ecological condition or DRFCs. Apply wildlife (maintain), riparian (improve) and upland (improve) objectives.

Data Summary: The upland watershed function, ecological processes and wildlife habitats are functioning properly. Riparian habitats are not functioning properly due to historic heavy grazing. The fence between this pasture and the 0201 Riparian Stream Exclosure (20) is non-functional. The fence on the bottom of the Holding pasture (11) separating it from FFR is functional but the fence separating it from the Cottonwood Wildlife Stream Exclosure (10) is not functional. Issues of concern are annual rangelands.

Pasture: Cottonwood Fire Rehab (18)

Past Objectives: None

New Objectives: The long-term objective is to improve ecosite condition to attain middle ecological condition or DRFCs. Apply wildlife (maintain), riparian (improve) and upland (improve) objectives.

Data Summary: This pasture lies below Boston Horse Camp. Refer to the comments for Mountain Pasture (08). Riparian habitat is not functioning due to the lack of woody species (aspen groves are decadent). Fences are marginally functional and not maintained. Fish (redband trout) and wildlife (deer/antelope winter range) are issues of concern.

Pasture: North Bully Holding (19)

Past Objectives: None

New Objectives: None

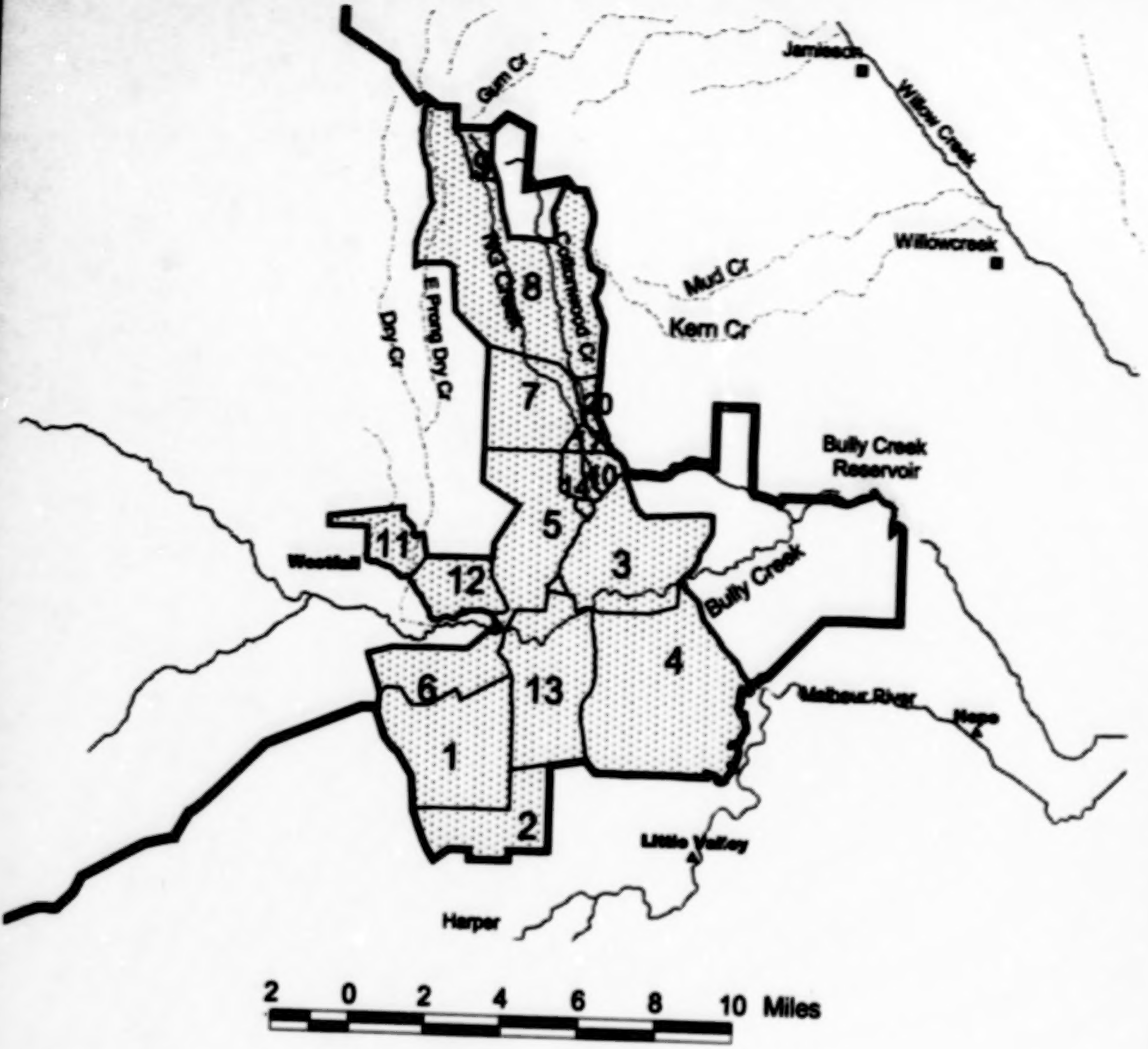
Data Summary: There are 91 acres identified for this pasture, but there are no functioning fences. This pasture is believed to be part of North Bully Creek pasture (03). Issues of concern include annual rangelands.

Pasture: 0201 Riparian Stream Exclosure (20)

Past Objectives: None

New Objectives: The long-term objective is to improve ecosite condition to attain middle ecological condition or DRFCs. Apply wildlife (maintain), riparian (improve) and upland (improve) objectives.

Data Summary: Fences are nonfunctional on the southern and western boundaries. Upland watershed function is properly functioning (see North NG Seeding (07) native vegetation communities). Riparian habitats are not functioning properly due to historic grazing and current trespass as a result of nonfunctional fences. Current riparian trend is improving. The exclosure itself is not functional and is grazed. Issues of concern are special status species (sage grouse lek nearby)



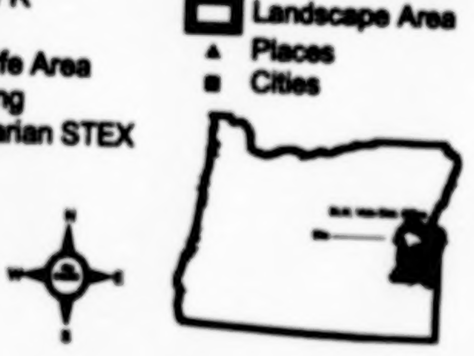
Map 3. Bully Creek Landscape Area
Allotment 2 10201

Pasture Legend

1 Mesa Brush Control
2 Harper Seeding
3 North Bully Creek
4 Wildhorse
5 South NG Seeding
6 Bully Creek Seeding
7 North NG Seeding
8 Mountain
9 NG Creek Riparian Exclosure
10 Cottonwood Wildlife STEX
11 Holding
12 Dry Creek
13 Jordan FFR
14 FFR
16 NG Wildlife Area
17 NG Holding
20 0201 Riparian STEX

Map Legend

▭ Pastures
Surface Water
Intermittent Streams
Perennial Streams
▨ Allotment 2 10201
▭ Landscape Area
▲ Places
■ Cities



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Allotment #3 (10202)

Allotment Summary: Evaluations were conducted for this allotment in 1986 and 1993. Shortage of spring range and trends not meeting objectives were identified as concerns.

Past Objectives: Objectives in this allotment have been developed at the pasture level.

New Objectives: See individual pasture summaries.

Operator Information:

Operator Name	Active AUMs	Suspended AUMs	Exchange of Use	Season of Use
Indian Creek Ranch	10392	935	686	4/1-10/31
Romans Ranch	2605	0	0	4/1-10/31
Chris Davis	483	0	0	4/1-10/31

Data Summary

Pasture	Standards for Rangeland Health									Trends		
	1	2					3	4	5	Upland Long-term	Upland Short-term	Riparian Overall
		PFC	FARU	FARN	FARD	NF						
		(miles)										
Jones	PFC	5.5	3.75	2.25			FAR	N	FAR	S	S	ND
North Black Canyon	PFC	1.25				8	FAR	N	PFC	SD	S	SD
South Black Canyon	PFC/PFC	7.75				0.75	FAR/PFC	N	PFC/PFC	SD	S	ND
East Cottonwood Seeding	FAR				1		FAR	N	FAR	D	S	ND
West Cottonwood Seeding	FAR/FAR				1		PFC/PFC	N	PFC/PFC	S	SU	ND
Kelsey Butte	PFC						PFC		PFC	SU	SU	ND
Swamp Creek Seeding	PFC/PFC		2.75		2.25		PFC/PFC	N	PFC/PFC	D	SU	U
North Gregory Creek	PFC/PFC	3.25		1.75		1.5	FAR/PFC	N	PFC/PFC	ND	ND	ND
Indian Creek	PFC	0.75		0.75		1.5	PFC	N	PFC	ND	SU	ND
South Gregory Creek	PFC/PFC	1.75		4.5			PFC/PFC	N	PFC/PFC	SU	SU	ND
North Studhorse	PFC	1.75		0.75	1.5		PFC	N	PFC	S	SU	ND
South Studhorse	PFC		2				PFC	?	FAR	S	SU	ND
Lower Pole Creek FFR	FAR	1	1.5				NF	N	FAR	S	SU	U
Becker Horse Camp FFR	ND	To be assessed in FY99					ND		ND	ND	ND	ND
Wilson Creek FFR	ND	To be assessed in FY99					ND		ND	ND	ND	ND
Hanna Station FFR	ND						ND		ND	ND	ND	NR
Upper Pole Creek FFR	FAR					3	FAR	N	FAR	SD	S	ND

Pasture	Standards for Rangeland Health									Trends		
West Creek FFR	ND						ND		ND	ND	ND	NR
Dice FFR	ND					0.25	ND		ND	ND	ND	ND
Becker FFR	ND	To be assessed in FY99.					ND		ND	ND	ND	ND
Westfall FFR	ND					1.75	ND	N	ND	ND	ND	ND
Pence Spring STEX	ND						ND		ND	ND	ND	ND
S. Fork Indian Creek STEX	ND	2.5					ND	Y	ND	ND	ND	ND
Allotment #3 RSEX	ND						ND		ND	ND	ND	ND
Zotto RSEX	ND						ND		ND	ND	ND	ND
Cooper Reservoir	ND						ND		ND	ND	ND	ND
Gregory Creek Reservoir	ND						ND		ND	ND	ND	ND
S. Gregory Creek Reservoir	ND						ND		ND	ND	ND	ND
Big Flat Reservoir	ND						ND		ND	ND	ND	ND
FFR	ND						ND		ND	ND	ND	NR

Grazing Schedule

Pasture	Reason for not meeting Standards 1-5		Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule		
	Caused by Current Grazing	Caused by Other Factors	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Jones	3, 5	2, 3, 5	7/1-10/31	7/1-10/31	7/1-10/31	7/1-10/31	7/1-10/31	7/1-10/31
North Black Canyon	2, 3	2, 3	4/1-4/30	6/15-7/1	REST	REST	5/1-7/1	4/1-5/1
South Black Canyon	3	2,3	4/1-7/1	REST	5/1-7/1	5/1-7/1	REST	4/1-5/1
East Cottonwood Seeding	2	1,2,3,5	REST	4/1-4/30	4/1-4/30	4/1-4/30	4/1-4/30	5/1-7/1
West Cottonwood Seeding	2	1,2	7/15-10/31	5/1-6/15	4/1-4/30	4/1-4/30	4/1-4/30	5/1-7/1
Kelsey Butte			7/15-10/31	7/1-10/31	7/1-10/31	7/16-10/31	7/1-10/31	7/1-10/31
Swamp Creek Seeding	2	2	4/1-6/15	REST	3/15-5/15	4/15-5/15	4/1-5/1	5/1-7/1
North Gregory Creek		2,3	REST	3/15-6/15	REST	REST	5/1-7/1	4/1-4/30
Indian Creek		2	7/15-10/31	9/15-10/31	7/15-10/31	7/16-10/31	7/1-10/31	5/1-7/1
South Gregory Creek		2	4/1-6/15	REST	5/15-7/15	5/15-7/15	REST	7/1-7/31

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Pasture	Reasons for not meeting Standards 1-5		Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule		
	Caused by Current Grazing	Caused by Other Factors	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
North Studhorse		2	6/15-8/1	8/15-10/31	7/15-10/31	7/16-10/31	5/1-7/1	7/1-10/31
South Studhorse		5	8/1-10/31	7/1-8/15	5/15-7/16	5/15-7/16	7/1-10/31	7/1-10/31
Lower Pole Creek FFR	1, 2, 3, 5		3/1-4/30	3/15-4/30	4/15-5/15	3/15-4/15	4/15-5/1	5/1-6/1
Upper Pole Creek FFR	1, 2, 3, 5	1, 2, 3, 5	FFR	FFR	FFR	5/15-6/1	3/15-4/15	4/15-5/15
Middle Pole Creek FFR			FFR	FFR	FFR	4/15-5/15	5/15-6/15	3/15-4/15

Pasture Summaries:

Pasture: Jones (01)
Past Objectives: Maintain late ecological condition of upland vegetative communities.
New Objectives: The long-term objective is to maintain ecosite condition at late ecological condition or DRFCs. Apply wildlife (improve), riparian (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function is in or making significant progress toward properly functioning condition. Upland trend indicates the pasture is meeting the upland objective. Ecological processes and wildlife habitats are not properly functioning due to historic and current grazing practices (grazing after seed ripe). Riparian habitats are not properly functioning for unknown reasons. The pasture has increasing density levels of cheatgrass, juniper and other weedy species and the bitterbrush is not reproducing. Issues of concern include Cultural resources, wildlife (summer range for deer and pronghorn), and special status species (sage grouse lek inside and adjacent to pasture and redband trout).

Pasture: North Black Canyon (02)
Past Objectives: Improve 50% of riparian zone to late ecological condition in 15 years. All middle ecological condition classes were to improve.
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply wildlife (maintain), riparian (improve) and upland (improve) objectives.
Data Summary: The upland watershed function and wildlife habitats are in or are making significant progress toward properly functioning condition. The long-term upland trend indicates that the pasture is not meeting its upland objective because the upland portions of this pasture have remained in middle ecological condition. Riparian habitats and ecological processes are not functioning properly due to historic and current grazing. Riparian habitats are also impacted by in-stream road maintenance by the County. The 2 acre Pence Spring Reservoir Exclosure (22) is also located within this pasture. Issues of concern include Cultural Resources (obsidian quarry) and special status species (redband trout in Cottonwood Creek).

Pasture: South Black Canyon (03)
Past Objectives: Improve middle ecological condition to late ecological condition within 15 years.
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply wildlife (maintain), riparian (improve) and upland (improve) objectives.
Data Summary: The upland watershed function and wildlife habitats are

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in or are making significant progress toward properly functioning condition. The long-term upland trend indicates the pasture is not meeting the upland objective. Ecological processes and riparian habitats are also properly functioning in a portion of the pasture but not functioning in other portions due to historic heavy grazing. Recruitment and seed production of native species is not adequate and vegetation diversity is reduced with weeds increasing. The current grazing schedule (3 out of 5 years of rest with early season use the other 2 years) is not adequate for bluebunch wheatgrass to recover if grazing occurs during the growing season. Issues of concern include Cultural Resources (obsidian quarry), wildlife (deer and pronghorn winter range) and special status species (spotted frog, sage grouse lek near the pasture).

Pasture: East Cottonwood Seeding (04)
Past Objectives: Maintain late ecosite condition for the seeding areas. Minimize accumulation of wolf plants; maximize availability of fall green-up for wildlife.
New Objectives: The long-term objective is to improve ecosite condition of the native vegetation communities to attain middle ecological condition or DRFCs. Apply wildlife (improve), riparian (improve), upland (improve), and seeding #2 objectives.
Data Summary: The upland watershed function, ecological processes, and wildlife habitats are not in properly functioning condition due to historic heavy grazing use. Sagebrush and weeds are increasing in the seeding resulting in a lack of diversity. Upland trends indicate that the pasture is not meeting the seeding objective. Riparian habitats are not functioning properly due to downcutting of the stream and historic and current grazing. Annual rangelands, weeds (whitetop along roads) and wildlife (deer and pronghorn winter range) are issues of concern.

Pasture: West Cottonwood Seeding (05)
Past Objectives: Maintain late ecosite condition for the seeding areas. Minimize accumulation of wolf plants; maximize availability of fall green-up for wildlife.
New Objectives: The long-term objective is to improve ecosite condition of the native vegetation communities to attain middle ecological condition or DRFCs. Apply wildlife (maintain), riparian (improve), upland (improve) and seeding #2 objectives.
Data Summary: The upland watershed function is not properly functioning due to historic heavy grazing. Upland trends indicate the pasture is meeting the seeding objective. Riparian habitats are not functioning properly due to downcutting of the stream and historic and current grazing. Ecological processes and wildlife habitats are in properly functioning condition. Reservoir Exclosure (24) comprising 11 acres is located within this pasture. Annual rangelands, special status species (redband trout in Cottonwood Creek) and wildlife (deer and pronghorn winter range) are issues of concern.

Pasture: Kelsay Butte (06)
Past Objectives: Improve middle ecological condition to late ecological condition class within 15 years.
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply wildlife (maintain), riparian (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are in or are making significant progress toward properly functioning condition. Upland trends indicate the pasture is moving towards meeting the upland objective. There are some even-aged aspen pockets within the pasture. Juniper may be encroaching; control is warranted but use fire may adversely impact mountain mahogany. No issues of concern have been identified in this pasture.

Pasture: Swamp Creek Seeding (07)
Past Objectives: Improve 50% of riparian zone to late ecological condition in 15 years.
New Objectives: The long-term objective is to improve ecosite condition in the native vegetation communities to attain middle ecological condition or DRFCs. Apply wildlife (maintain), riparian (improve), upland (maintain) and seeding #3 objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are in or are making significant progress toward properly functioning condition. Although the understory is lacking in forbs, shrub structure is good. Riparian habitats are not properly functioning due to historic and current grazing; deer and pronghorn use

is also heavy. Riparian trend indicates this pasture is not meeting the riparian objective. Annual rangelands (cheatgrass), Cultural Resources (obsidian quarry), special status species (redband trout in Cottonwood Creek) and weeds (Russian knapweed along the road; whitetop) are issues of concern.

Pasture: North Gregory Creek (08)
Past Objectives: Improve middle ecological condition to late ecological condition class within 15 years.
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply wildlife (maintain), riparian (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function and wildlife habitats are in or are making significant progress toward properly functioning condition. The cause for ecological processes not properly functioning at one site is uncertain but there is a lack of grass/forb species in places and the risk of annual weedy species and juniper invasion is high. The riparian habitats are not properly functioning possibly due to a geological influence and/or historic grazing but causes are not fully understood. Annual rangelands, weeds, wildlife (deer and pronghorn winter range), special status species (sage grouse) and Cultural Resources (quarry for naturally occurring obsidian) are issues of concern.

Pasture: Indian Creek (09)
Past Objectives: Maintain late ecosite condition.
New Objectives: The long-term objective is to maintain ecosite condition at late ecological condition or DRFCs. Apply wildlife (maintain), riparian (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are in or are making significant progress toward properly functioning condition. Short-term upland trend indicates the pasture is meeting the upland objective (plot was established in 1992). Spraying of weeds has included the spot treatment of Russian knapweed along roads in the northwest corner of the pasture. Whitetop and Scotch thistle have also been spot treated along the Pole Creek Road from Hwy. 20 to Becker Horse Camp and onto private lands at Big Springs. Riparian habitats are not functioning properly due to a geological influence on the stream channel combined with sediment loading from upstream sources and historic grazing. The South Fork Indian Creek Stream Exclosure (23) (no data on size) and the Zotto Reservoir Exclosure (25) (38 acres) are located within this pasture. Annual rangelands, juniper invasion, special status species (spotted frog present), wildlife (deer and pronghorn winter range) and weeds are issues of concern.

Pasture: South Gregory Creek (10)
Past Objectives: Improve middle ecological condition to late ecological condition class within 15 years.
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply wildlife (maintain), riparian (improve) and upland (improve) objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are in or are making significant progress toward properly functioning condition. The pasture was rested four out of the last five years. Upland trends indicate the pasture is moving towards meeting the upland objective. Riparian habitats are not properly functioning due to restricted stream flows controlled by a reservoir located upstream. Cultural Resources (obsidian quarry), juniper invasion (widely scattered but encroaching), and special status species (two sage grouse leks; redband trout in West Fork Cottonwood Creek) are issues of concern.

Pasture: North Studhorse (11)
Past Objectives: Maintain late ecosite condition.
New Objectives: The long-term objective is to maintain ecosite condition at late ecological condition or DRFCs. Apply wildlife (maintain), riparian (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are in or are making significant progress toward properly functioning condition. Bitterbrush is reproducing well and there are some old growth juniper present. Upland trends indicate the pasture is meeting the upland objective. Riparian habitats are not functioning properly due to current livestock grazing (late/hot season use has not been conducive to recovery) and restricted stream flows controlled by upstream reservoir. Wildlife (deer and elk summer habitat), juniper

invasion, weeds (Russian knapweed and whitetop have been treated twice along a 1/8-mile roadway site north of Muir Reservoir) and special status species (two sage grouse leks) are issues of concern.

Pasture: South Studhorse (12)
Past Objectives: Maintain late ecosite condition.
New Objectives: The long-term objective is to maintain ecosite condition at late ecological condition or DRFCs. Apply wildlife (improve), riparian (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function and ecological processes are in or are making significant progress toward properly functioning condition. Upland trends indicate the pasture is meeting the upland objective. Wildlife and riparian habitats are not properly functioning due to hot season grazing, reservoir control on water flows and juniper invasions. Wildlife (deer and elk habitat), juniper invasion and special status species (goshawk nesting and hunting within 1 mile; sage grouse) are issues of concern.

Pasture: Lower Pole Creek (13)
Past Objectives: Improve vegetation associated with riparian zone.
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply wildlife (improve), riparian (improve) and upland (improve) objectives.
Data Summary: The upland watershed function, riparian habitat, ecological processes and wildlife habitats are not properly functioning due to historic grazing and upstream impacts (access and historic and current grazing). This has resulted in a lack of perennial grasses along with juniper and annual weed encroachment. Riparian trend indicates that the pasture is meeting the riparian objective. Pole Creek is a 303(d) listed stream and, as such, is not properly functioning in terms of water quality (temperature). Annual rangelands (medusahead rye), wildlife (deer and elk habitat), special status species (redband trout; spotted frog) and juniper invasion are issues of concern.

Pasture: Upper Pole Creek FFR (17)(⅓ pasture is public land)
Past Objectives: None
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply wildlife (improve), riparian (improve) and upland (improve) objectives.
Data Summary: The upland watershed functions, riparian habitats, ecological processes and wildlife habitats are not properly functioning due to access and historic and current grazing. This has resulted in a lack of perennial grasses along with juniper and annual weed encroachment. Road location is impacting riparian habitats. Pole Creek is a 303(d) listed stream and, as such, is not properly functioning in terms of water quality (temperature). Annual rangelands, wildlife (elk and deer habitat), juniper invasion, weeds and special status species (redband trout; spotted frog) are issues of concern. See the comments for Indian Creek pasture for weed treatments.

Miscellaneous Pastures
Pasture: Becker Horse Camp FFR (14)
Past objectives: None
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply riparian (improve)and upland (improve) objectives.
Data Summary: Riparian habitats are not properly functioning due to historic heavy grazing. Riparian assessment needs to be completed in 1999. Juniper invasion and special status species (sage grouse lek) are issues of concern.

Pasture: Wilson Creek FFR (15)
Past Objectives: None
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply riparian (maintain) and upland (improve) objectives.
Data Summary: Riparian assessment needs to be completed in 1999. Annual rangelands are an issue of concern.

Pasture: Hanna Station FFR (16)
Past Objectives: None
New Objectives: None
Data Summary: Riparian (NF Indian Creek and Hanna Reservoir) is on private land. Annual rangelands and juniper invasion are issues of

concern.

Pasture: West Creek FFR (18)
Past Objectives: None
New Objectives: None
Data Summary: Riparian habitat is on private lands. Annual rangelands are an issue of concern.

Pasture: Dice FFR (19)
Past Objectives: None
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply riparian (improve) and upland (improve) objectives.
Data Summary: Riparian habitats are not properly functioning. Annual rangelands are an issue of concern.

Pasture: Becker (20)
Past Objectives: None
New Objectives: None
Data Summary: Juniper invasion is an issue of concern. Riparian assessment needs to be completed in 1999.

Pasture: Westfall FFR (21)
Past Objectives:
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply riparian (improve) and upland (improve) objectives.
Data Summary: Riparian habitat is not functioning properly due to historic grazing. Annual rangelands and weeds are issues of concern.

Pasture: Pence Spring Stream Exclosure (22)
Past Objectives: None
New Objectives: None
Data Summary: Fences in North Black Canyon are not functioning (targeted for repair by Bully Creek Watershed Coalition). No issues of concern have been identified in this pasture.

Pasture: SF Indian Creek Stream Exclosure (23)
Past Objectives: None
New Objectives: Apply riparian (maintain) objective.
Data Summary: Exclosure is located from Zotto Reservoir to Big Springs. Riparian habitats are properly functioning. There are historic trespass problems on the western end of this exclosure. Potential Wild and Scenic River designation (currently 2 miles/626 acres determined eligible but not suitable for potential designation (SEORMP). No issues of concern have been identified in this pasture.

Pasture: Reservoir Exclosure (24)
Past Objectives: None
New Objectives: None
Data Summary: A stocked fisheries reservoir exists within the pasture (West Cottonwood Seeding (05)) but the protection fences are not functioning. The Bully Creek Watershed Coalition has targeted these fences for repair as well proposing to pipe water out of the reservoir for livestock watering. Annual rangelands are an issue of concern.

Pasture: Zotto Reservoir (25)
Past Objectives: None
New Objectives: The long-term objective is to improve ecosite condition to attain middle ecological condition or DRFCs. Apply riparian (improve) and upland (improve) objectives.
Data Summary: Annual rangelands and weeds are issues of concern.

Pasture: Cooper Reservoir (26)
Past Objectives: None
New Objectives: None
Data Summary: Condition unknown other than this is a box reservoir for a livestock watering project. Annual rangelands and juniper invasion are issues of concern.

Pasture: Gregory Creek Reservoir (27)
Past Objectives: None
New Objectives: None
Data Summary: Condition unknown. Annual rangelands are an issue

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of concern.

Pasture: S. Gregory Creek Reservoir (28)
Past Objectives: None
New Objectives: None
Data Summary: Condition unknown. Annual rangelands are an issue of concern.

Pasture: Big Flat Reservoir (29)
Past Objectives: None
New Objectives: None
Data Summary: Condition unknown. No issues of concern have been identified in this pasture.

Pasture: FFR (30)
Past Objectives: None
New Objectives: None
Data Summary: Annual rangelands are an issue of concern.

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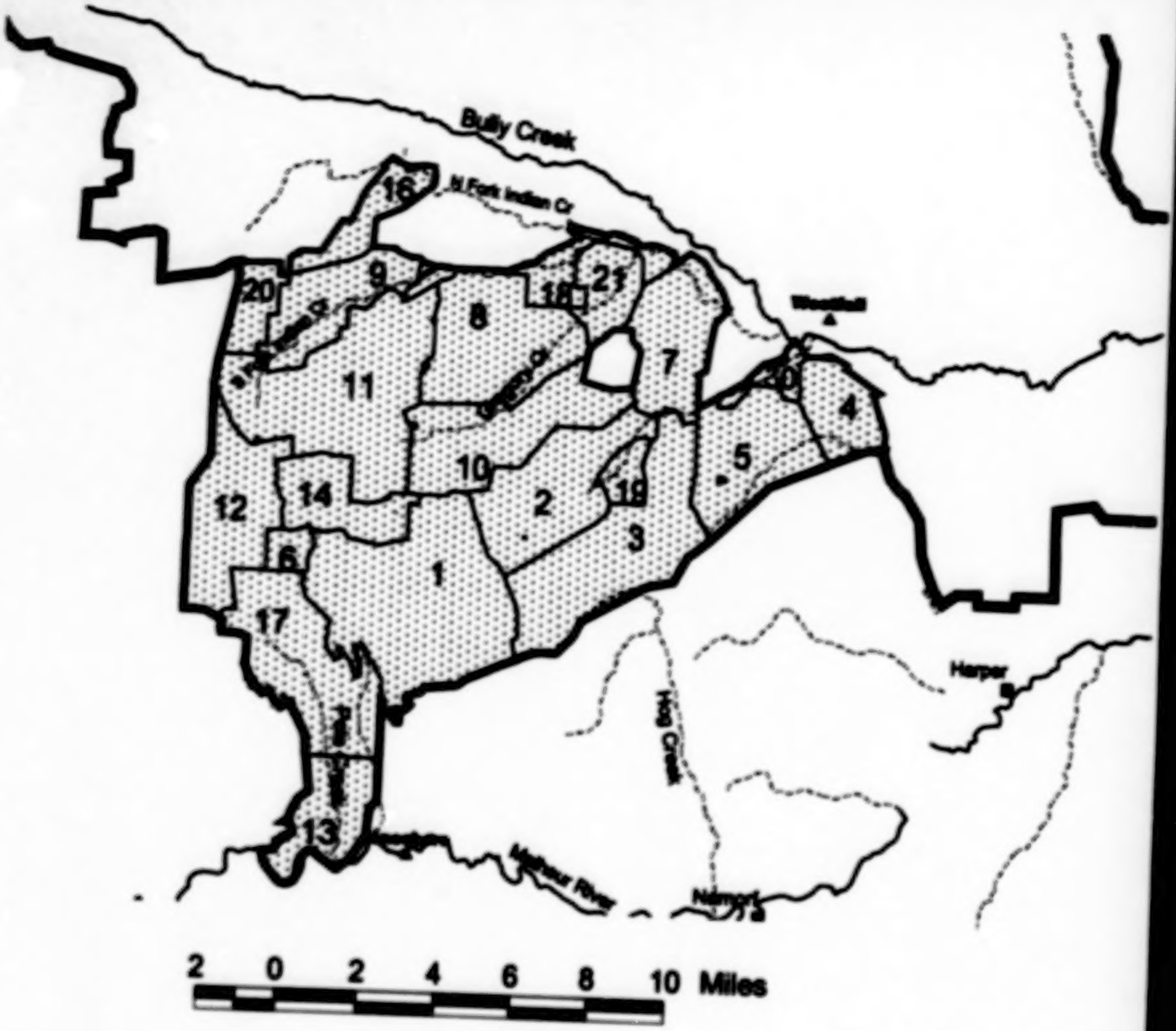

Map 4. Bully Creek Landscape Area
Allotment 3 10202

Pasture Legend

1 Jones
2 North Black Canyon
3 South Black Canyon
4 East Cottonwood Seeding
5 West Cottonwood Seeding
6 Kelsay Butte
7 Swamp Creek Seeding
8 North Gregory Creek
9 Indian Creek
10 South Gregory Creek
11 North Studhorse
12 South Studhorse
13 Lower Pole Creek FFR
14 Becker Horse Camp FFR
16 Hanna Station FFR
17 Upper Pole Creek FFR
18 West Creek FFR
19 Dice FFR
20 Becker FFR
21 Westfall FFR
30 FFR

Map Legend

- Intermittent Streams
- Perennial Streams
- ☐ Allotments
- ▨ Pastures
- ☐ Landscape Area
- ▲ Places
- ■ Cities

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Rail Canyon Allotment (10205)

Allotment Summary: Evaluations for this allotment were conducted in 1989 and 1996. Issues concerning upland trends and riparian conditions were raised in both evaluations. Some pastures containing private land are managed as custodial pastures with no management objectives identified.

Past Objectives: Objectives in this allotment have been developed at the pasture level.

New Objectives: See individual pasture summaries.

Operator Information:

Operator Name	Active AUMs	Suspended AUMs	Exchange of Use	Season of Use
Terry Amick	3023	0	84	4/1-10/31

Data Summary

Pasture	Standards for Rangeland Health									Trends		
	1	2					3	4	5	Upland Long-term	Upland Short-term	Riparian Overall
		PFC	FARU	FARN	FARD	NF						
		(miles)										
West Rock Creek	PFC						PFC		PFC	S	S	NR
East Chastain	PFC			1.25			PFC	N	FAR	ND	ND	ND
West Chastain	PFC			1.25			FAR	N	ND	D	S	ND
Kitten Canyon	PFC			2.75	9.25	2.5	PFC	N	PFC	S	S	D
East Crow Creek	PFC/PFC/PFC	6.25	3.5	2			PFC/FAR/PFC	N	FAR/FAR/FARR	ND	ND	D
West Crow Creek	PFC/PFC		3.25	5			PFC/FAR	N	FAR/FAR	S	SU	D
Home FFR	ND	To be assessed in FY99					ND		ND	ND	ND	ND
Lost Creek FFR	ND						ND		ND	ND	ND	NR
East Rock Creek	ND						ND		ND	ND	ND	NR
FFR	ND						ND		ND	ND	ND	NR

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Grazing Schedule

Pasture	Reason for not meeting Standards 1-5		Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule			
	Caused by Current Grazing	Caused by Other Factors	Year 1	Year 2	Year 3	Year 1 1999	Year 2 2000	Year 3 2001	Year4 2002
West Rock Creek			4/1-4/30	4/1-4/30	REST	4/1-4/30	4/1-4/30	4/1-4/30	5/1-5/31
East Chastain		2, 5	4/1-4/30	5/16-6/30	4/1-4/30	5/16-6/30	REST	5/16-6/30	4/1-4/30
West Chastain		2, 3	5/16-7/1	7/1-7/31	6/1-6/15	7/1-7/30	5/16-7/1	7/1-8/1	10/1-10/31
Kitten Canyon	2	2	7/2-8/15	8/1-9/30	6/16-9/1	8/1-8/30 10/1-10/30	7/1-7/8	10/1-10/31	6/1-7/15
East Crow Creek		2, 3, 5	REST	REST	10/1-10/31	REST	9/16-10/31	9/2-10/1	7/16-9/1
West Crow Creek		2, 3, 5	8/16-10/31	10/1-10/31	9/2-9/30	9/1-10/1	REST	8/2-9/1	9/2-10/1
Lost Creek FFR			N/D	N/D	N/D		7/8-9/15		
East Rock Creek			5/1-5/15	5/1-5/15	5/1-5/31	5/1-5/15	5/1-5/15	5/1-5/15	REST

Pasture Summaries:

Pasture: West Rock Creek (01)
Past Objectives: Improve middle ecological condition to late ecological condition (1990 AMP - no time frames established).
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply wildlife (maintain) and upland (improve) objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are in, or are making significant progress toward, properly functioning condition. Upland trends indicate that the pasture is not meeting the upland objective. Annual rangelands and weeds (Russian knapweed coming from East Chastain (02) and West Chastain (03) pastures to the north; whitetop) are issues of concern.

Pasture: East Chastain (02)
Past Objectives: Improve middle ecological condition to late ecological condition for upland vegetative communities (1990 AMP - no time frames established).
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply wildlife (improve), riparian (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function and ecological processes are in, or are making significant progress toward, properly functioning condition. Riparian habitats are not properly functioning (cause unknown; grazing has been early season the last 5 years; willow being grazed by cattle or wildlife; healthy aspen stand below, but none in the "at risk" segment). Wildlife habitats are not properly functioning (cause unknown). Annual rangelands, special status species (sage grouse lek outside pasture 1/10 mile south of boundary), juniper invasion and weeds (Russian knapweed) are issues of concern.

Pasture: West Chastain (03)
Past Objectives: Improve middle ecological condition to late ecological

condition for upland vegetative communities (1990 AMP - no time frames established).
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply wildlife (improve), riparian (improve) and upland (improve) objectives.
Data Summary: The upland watershed is in or making significant progress toward properly functioning condition. Upland trends indicate that the pasture is not meeting the upland objective. Riparian habitats and ecological process are not properly functioning due to historic grazing resulting in low productivity and lack of community diversity. Juniper invasion should be monitored. Annual rangelands, special status species (sage grouse lek in the pasture) and special management areas (1,709 acres of the Beaver Dam Creek WSA) are issues of concern.

Pasture: Kitten Canyon (04)
Past Objectives: Improve middle ecological condition to late ecological condition for upland vegetative communities (1990 AMP - no time frames established).
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply wildlife (maintain), riparian (improve) and upland (improve) objectives.
Data Summary: The upland watershed function, ecological processes, and wildlife habitats are in, or are making significant progress toward, properly functioning condition. Upland trends indicate the pasture is not meeting the upland objective. Riparian habitats are not properly functioning due to historic grazing, current season-of-use and juniper invasion. Wildlife (deer and elk habitat; songbirds), juniper invasion, special status species (sage grouse lek immediately adjacent to pasture; Lewis woodpecker and black backed woodpecker) and special management areas (4,872 acres of the Beaver Dam Creek WSA) are issues of concern.

Pasture: East Crow Creek (05)
Past Objectives: Improve designated riparian zones to achieve climax conditions on at least 50% of these riparian zones. Maintain late ecological condition of upland vegetative communities. (1990 AMP)
New Objectives: The long-term objective is to maintain ecosite condition at late ecological condition or DRFCs. Apply wildlife (improve), riparian (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function and one site monitored for ecological processes are in or are making significant progress toward properly functioning condition. Riparian habitats, one assessment site monitored for ecological processes, and wildlife habitats are not properly functioning due to historic grazing, elk populations and fire suppression. Streams have historically blown out but are recovering (South Clover Creek/Rail Canyon and part of Clover Creek). Trend data indicates that the past riparian objective is not being met. The long-term riparian trend is down due to juniper invasion and the lack of aspen recruitment although the grass/forb component looks good. Wildlife (elk and deer habitat; songbirds), juniper invasion and special status species (nesting goshawk; spotted frog; redband trout) are issues of concern.

Pasture: West Crow Creek (06)
Past Objectives: Improve designated riparian zones to achieve climax conditions on at least 50% of these riparian zones. Maintain late ecological condition of upland vegetative communities (1990 AMP)
New Objectives: The long-term objective is to maintain ecosite condition at late ecological condition or DRFCs. Apply wildlife (improve), riparian (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function (one assessment site monitored for ecological processes) are in, or are making significant progress toward, properly functioning condition. Upland trends indicate the pasture is meeting the upland objective. Riparian habitats (one assessment site monitored for ecological processes and for wildlife habitats) are not properly functioning due to historic grazing, high elk populations and fire suppression. This has resulted in decadent aspen stands, lack of woody reproduction, overstocking of coniferous trees and juniper encroachment. Trend data indicates the riparian objective is not being met. The long-term riparian trend is down due to the decadent overstory athough the grass/forb component looks good. Wildlife (elk and deer; songbirds), juniper invasion and special status species (goshawk) are issues of concern.

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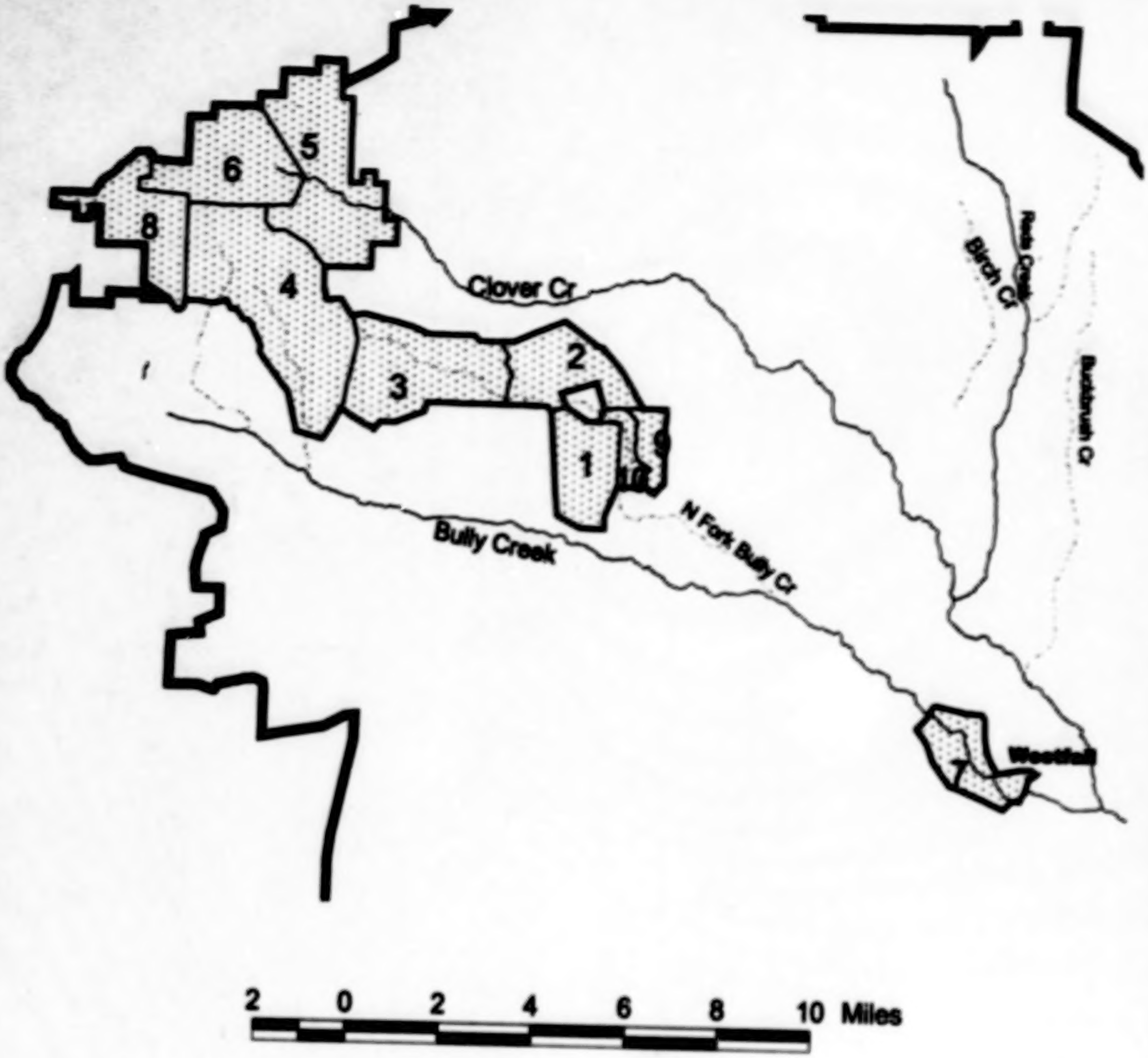
Pasture: Home FFR (07)
Past Objectives: Early seral. Improve ecological condition of riparian vegetative communities.
New Objectives: The long-term objective is to improve ecosite condition to attain middle ecological condition or DRFCs. Apply riparian (maintain) and upland (improve)objectives.
Data Summary: Riparian habitats are located on public lands in the northwest portion of pasture (Bully Creek segment). It is unknown if the pasture is meeting the riparian objective. Issues of concern include wildlife, juniper and special status species.

Pasture: Lost Creek FFR (08)
Past Objectives: Late seral. Maintain ecological condition of upland vegetative communities
New Objectives: The long-term objective is to maintain ecosite condition at late ecological condition or DRFCs. Apply upland (maintain) objective.
Data Summary: There are no issues of concern. The Beaver Dam Creek WSA (394 acres) lies primarily on upland habitat with little concern.

Pasture: East Rock Creek (09)
Past Objectives: None (custodial).
New Objectives: The long-term objective is to improve ecosite condition to attain late ecological condition or DRFCs. Apply upland (improve) objective.
Data Summary: SRH were not assessed. Annual rangelands are an issue of concern.

Pasture: FFR (10)
Past Objectives: None
New Objectives: The long-term objective is to improve ecosite condition to attain middle ecological condition or DRFCs. Apply upland (improve) objective.
Data Summary: Riparian is on private lands. Annual rangeland are an issue of concern.



Map 5. Bully Creek Landscape Area
Rail Canyon Allotment 10205

Map Legend
Intermittent Streams
Perennial Streams
Rail Canyon Pastures
Rail Canyon 10205
Landscape Area
▲ Places
■ Cities

Pasture Legend
Rail Canyon

1 West Rock Creek
2 East Chastain
3 West Chastain
4 Kitten Canyon
5 East Crow Creek
6 West Crow Creek
7 Home FFR
8 Lost Creek FFR
9 East Rock Creek
10 FFR

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Richie Flat Allotment (10214)

Allotment Summary: In 1988 an allotment evaluation was completed for this allotment. No adjustments were made in livestock management as a result of this evaluation due to the non-use taken by the livestock operator in the years prior to the evaluation and lack of critical resource issues.

Past Objectives: Objectives in this allotment have been developed at the pasture level.

New Objectives: See individual pasture summaries

Operator Information:

Operator Name	Active AUMs	Suspended AUMs	Exchange of Use	Season of Use
JD Dearing	3168	381	0	4/1-11/15

Data Summary

Pasture	Standards for Rangeland Health									Trends		
	1	2					3	4	5	Upland Long-term	Upland Short-term	Riparian Overall
		PFC	FARU	FARN	FARD	NF						
		(miles)										
South Ridge	PFC/PFC						PFC/PFC		FAR/PFC	U	U	NR
North Ridge	PFC						PFC		PFC	SU	S	NR
Richie Flat Seeding	PFC						FAR		FAR	U	U	NR
West Log Creek	PFC			2	4		PFC	N	PFC	U	U	ND
East Log Creek	PFC	0.75	2.5		2.75		PFC	N	PFC/FAR	SU	SU	S
Poison Butte	PFC						PFC		PFC	ND	ND	NR
Richie Flat FFR	ND						ND		ND	ND	ND	NR
Rods Creek 3-Way EX	ND						ND		ND	ND	ND	NR

Grazing Schedule

Pasture	Reason for not meeting Standards 1-5		Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule		
	Caused by Current Grazing	Caused by Other Factors	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
South Ridge		5	9/15-11/15	9/15-11/15	6/1-7/15	7/1-10/31	7/1-10/31	5/1-7/1
North Ridge			11/15-12/30	9/15-11/15	9/1-11/15	7/1-10/31	6/1-8/1	7/1-10/31
Richie Flat Seeding		3,5	5/1-6/30	5/1-6/30	5/1-6/1	5/1-7/1	7/1-10/31	5/1-7/1

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Pasture	Reason for not meeting Standards 1-5		Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule		
	Caused by Current Grazing	Caused by Other Factors	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
West Log Creek		2	4/1-4/30	4/1-4/30	5/1-5/31	4/1-5/1	5/1-6/1	4/1-5/1
East Log Creek		2,5	4/1-4/30	4/1-4/30	4/1-4/30	5/1-6/1 9/1-10/31	4/1-5/1 9/1-10/31	4/1-5/1 9/1-10/31
Poison Butte			5/1-6/30	5/1-6/30	REST	5/1-7/1	7/1-10/30	7/1-10/30

Pasture Summaries:

Pasture: South Ridge (01)
Past Objectives: Attain upward trend in 5-10 years and improve early ecological condition to middle ecological condition class within 15 years (by 2003).
New Objectives: The long-term objective is to improve ecosite condition of the native vegetation communities to attain late condition or DRFCs. Apply wildlife (maintain), seeding #3 and upland (maintain) objectives. Most of this pasture is native vegetation communities, however, crested wheatgrass was seeded in the southern portion of the pasture.
Data Summary: The upland watershed function, ecological processes and wildlife habitats in the native portion of the pasture are in or are making significant progress toward properly functioning condition. Wildlife habitat in the seeding is not properly functioning due to the lack of vegetative diversity. It is unknown if the pasture is meeting the upland objective for native vegetation communities. This pasture has been proposed as an ACEC/RNA for native vegetative communities. Annual rangelands and special status species (two sage grouse leks in pasture and one lek adjacent to pasture) are issues of concern.

Pasture: North Ridge (02)
Past Objectives: Improve middle ecological condition to late ecological condition within 10 years by 1998.
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply wildlife (maintain) and upland (maintain) objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are in properly functioning condition. Upland trends indicate the pasture is moving toward meeting the upland objective. Juniper invasion is a low priority problem because ecological conditions are very good; however, one patch is established and deserves monitoring. This pasture has been proposed as an ACEC/RNA for native vegetative communities and sage grouse values. Annual rangelands and special status species (sage grouse area with two leks) are issues of concern.

Pasture: Richie Flat Seeding (03)
Past Objectives: Improve good seeding condition to excellent seeding condition within 15 years (by 2003); restrict grazing of fall green-up and regrowth for wildlife.
New Objectives: The long-term objective is to improve ecosite condition of the native vegetation communities to attain late condition or DRFCs. Apply wildlife (improve), upland (maintain) and seeding #3 objectives.
Data Summary: The upland watershed function is in properly functioning condition. This seeding appears to be recovering. Ecological processes and wildlife habitats are not properly functioning due to historic grazing, invasion by annual weeds and a lack of vegetative

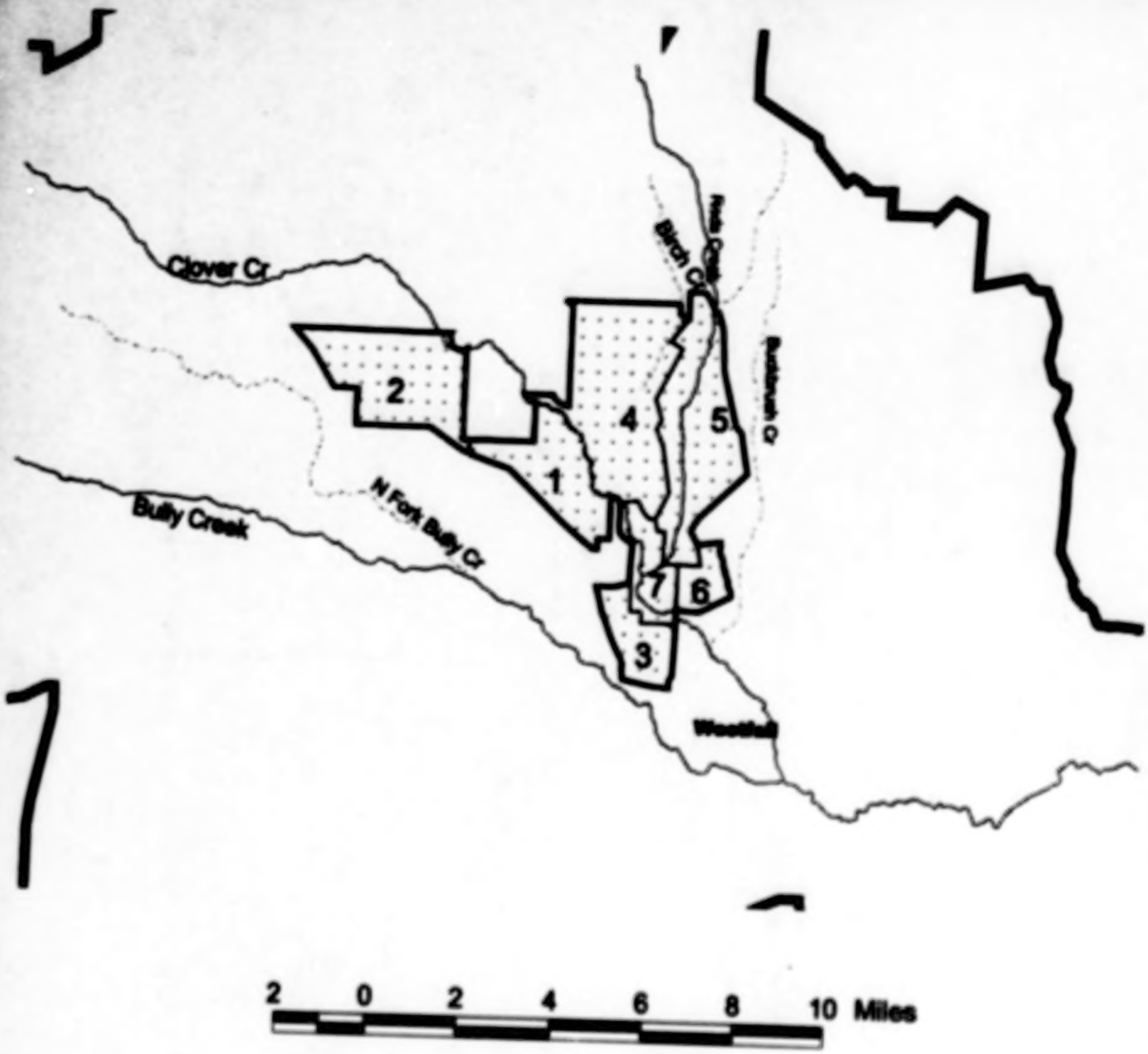
community diversity. A small corner of native vegetation communities is in fine condition. Seeding trends indicate the pasture is moving toward meeting the seeding objective. Special status species (one sage grouse lek) is an issue of concern.

Pasture: West Log Creek (04)
Past Objectives: Improve early ecological condition to middle ecological condition of upland vegetative communities within 10 years by 1998.
New Objectives: The long-term objective is to improve ecosite condition to attain middle condition or DRFCs. Apply wildlife (maintain), riparian (improve) and upland (improve) objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are in or are making significant progress toward properly functioning condition. Upland trends indicate the pasture is moving toward meeting the upland objective. Riparian habitats are not properly functioning due to historic grazing and current conditions of upstream private lands. Log Creek and Birch Creek aspen stands and the large woody vegetation have lost vigor (largely an upstream problem on private lands). Annual rangelands and special status species (sage grouse) in the lower portions of the pasture are issues of concern.

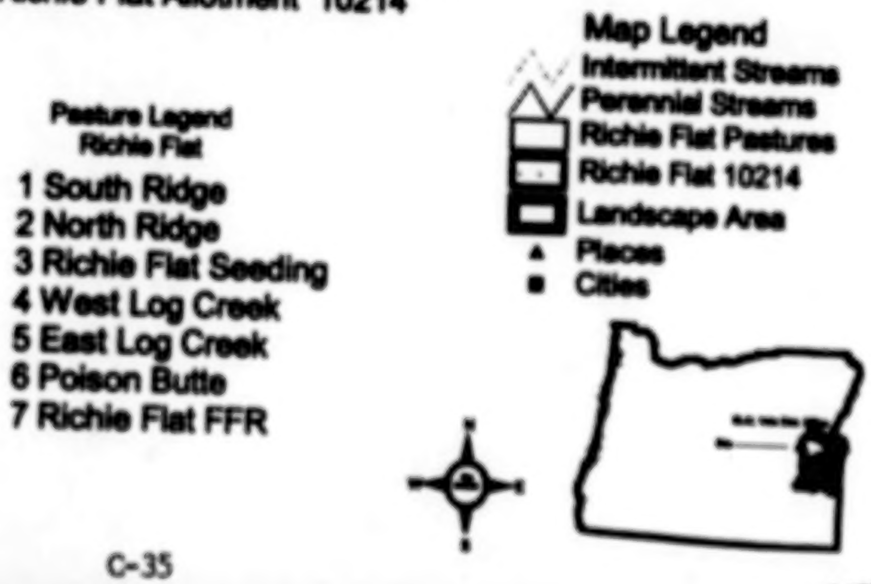
Pasture: East Log Creek (05)
Past Objectives: Attain upward trend in 5-10 years (by 1998) and improve from early ecological condition to middle ecological condition within 15 years (by 2003). Increase density and cover of perennial vegetation associated with riparian zone on Reds Creek.
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply wildlife (improve), riparian (improve) and upland (improve) objectives.
Data Summary: The upland watershed function and ecological processes are in or are making significant progress toward properly functioning condition. Upland trends indicate the pasture is moving toward meeting the upland objective. Riparian habitats are not properly functioning due to historic grazing and wildlife browsing on willows. Wildlife habitats are not properly functioning due to historic grazing in stiff sagebrush habitat (big sagebrush habitat is functional). Riparian trend indicates the pasture is moving toward meeting the riparian objective. The Reds Creek 3-Way Upland Exclosure (no data on size) is located within this pasture. Annual rangelands (part of Reds Creek) and special status species (one sage grouse lek) are issues of concern.

Pasture: Poison Butte (06)
Past Objectives: Improve early ecological condition to middle ecological condition within 15 years (by 2003). Maintain/improve the quality of deer/antelope winter range.
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply wildlife (maintain) and upland (improve) objectives.
Data Summary: The upland watershed function, ecological processes, and wildlife habitats are in or are making significant progress toward properly functioning condition. Annual rangelands are an issue of concern.

Pasture: Richie Flat FFR (07)
Past Objectives: None
New Objectives: No objectives are to be defined due to small acreage of public domain.
Data Summary: Only 9 acres of public lands are within the pasture and no data has been collected. There are no issues of concern.



Map 6. Bully Creek Landscape Area
Richie Flat Allotment 10214



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Brian Creek Allotment (10215)

Allotment Summary: At one time this allotment was part of Buckbrush Allotment (10218).

Past Objectives: Maintain/improve the ecological condition of upland vegetative communities.

New Objectives: See individual pasture summaries.

Operator Information:

Operator Name	Active AUMs	Suspended AUMs	Exchange of Use	Season of Use
Roger Corrigall	1092	0	0	4/1-11/15

Data Summary

Pasture	Standards for Rangeland Health									Trends		
	1	2 (miles)					3	4	5	Upland Long-term	Upland Short-term	Riparian Overall
		PFC	FARU	FARN	FARD	NF						
Mountain	PFC		3.25	3	1.5		PFC	N	PFC	S	SU	ND
North NG Seeding	FAR		1				PFC	N	FAR	D	S	ND
South NG Seeding	FAR/FAR		0.15				FAR/FAR	N	FAR/FAR	ND	ND	ND

Grazing Schedule

Pasture	Reason for not meeting Standards 1-5		Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule		
	Caused by Current Grazing	Caused by Other Factors	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
North Mountain	2	2	8/1-10/31	6/15-10/31	8/1-9/15	4/15-5/15	4/15-5/15	10/1-10/30
South Mountain	2	2	8/1-10/31	1 6/15-10/3	8/1-9/15	5/6-7/1	7/15-9/1	9/1-9/30
North NG Seeding	1, 2, 5		4/1-6/1	10/15-10/31	4/1-6/1	9/1-10/30	9/1-10/30	4/15-7/1
South NG Seeding	1, 2, 3, 5		10/1-10/31	4/1-6/15	9/15-10/31	9/1-10/30	9/1-10/30	4/15-7/1
True (Private)			6/1-7/31	9/15-10/15	8/1-9/15	7/1-8/1	6/15-7/15	8/1-9/1
Swede (Private)			6/1-7/31	9/15-10/15	6/1-7/31	8/1-9/1	5/16-6/16	7/1-8/1

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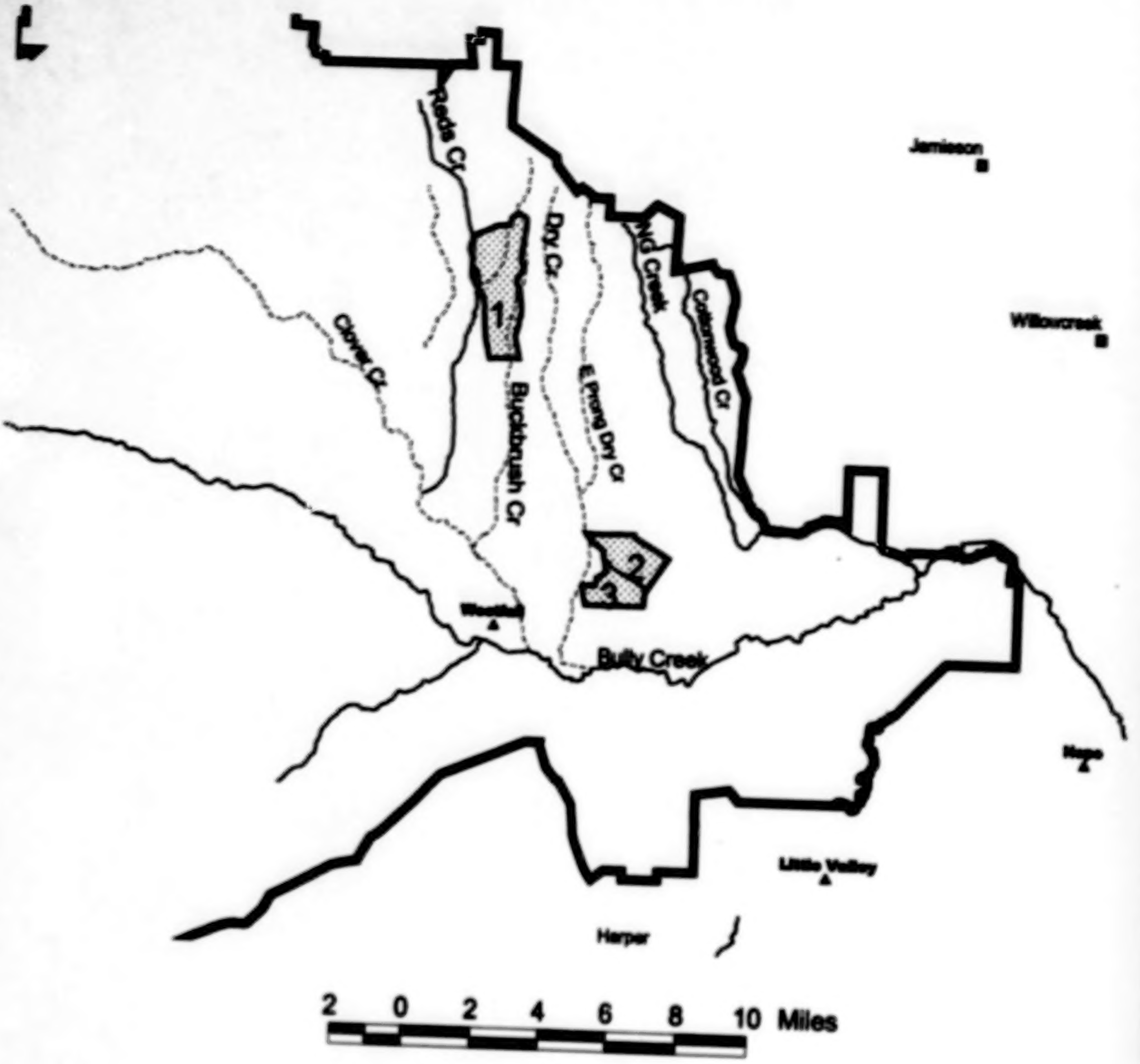
Pasture Summaries:

Pasture: Mountain Pasture (01)
Past Objectives: Maintain late ecosite condition class.
New Objectives: The long-term objective is to maintain ecosite condition at late condition or DRFCs. Apply wildlife (improve), riparian (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function and ecological processes are in or are making significant progress toward properly functioning condition. Upland objectives are being met on the short-term. Riparian habitats are not properly functioning due to historic grazing, current season-of-use and big game impacts. Riparian habitat used to support redband trout. Deer populations are down. Aspen stands are dead or dying along with other riparian shrubs/trees. Wildlife habitats were rated as properly functioning; however, riparian obligate species (trout; sage grouse; song birds; amphibians) are impacted by current riparian conditions. Riparian trend is static in a degraded condition on Brian Creek. Wildlife (heavy big game use in spring and summer and possibly overwintering) and special status species (sage grouse leks) are issues of concern.

Pastures: North NG Seeding (02) and South NG Seeding (03)
Past Objectives: Attain upward trend; improve middle ecological seeding condition to late ecological condition within 15 years (by 2002). Minimize wolf plants. Maximize availability of fall green-up for wildlife.
New Objectives: The long-term objective is to improve ecosite condition of the native vegetation communities to attain middle condition or DRFCs. Apply wildlife (improve), riparian (improve), upland (improve) and seeding #1 objectives.
Data Summary: The upland watershed function, riparian habitats, ecological processes and wildlife habitats are not in properly functioning condition due to historic and current grazing. The seedings have been used intensely, and the crested wheatgrass has lost viability, resulting in an increase in the shrub component with the corresponding loss of the crested wheatgrass. With increasing shrubs, the habitat is returning to a more natural state. The riparian habitat in South NG Seeding (03) is minimal (a water gap). In North NG Seeding (02), the long-term upland trend is down, and the short-term trend is static (not meeting objective for seeding trend). There are no specific trend data for South NG Seeding (03); however, North NG Seeding (02) represents trend in South NG Seeding (03). Annual rangelands are an issue of concern for both seedings (more than 25% of pastures in annual grasslands).



Map 7. Bully Creek Landscape Area
Brian Creek Allotment 10215

Map Legend
- ▭ Brian Creek Pastures
- Intermittent Streams
- Perennial Streams
- ▨ Brian Creek 10215
- ▭ Landscape Area
- ▲ Places
- ■ Cities

Pasture Legend
Brian Creek
1 Mountain
2 North NG Seeding
3 South NG Seeding

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Buckbrush (10218)/Westfall Seeding (00227)

Allotment Summary: Westfall Seeding (Allotment 00227) is a single pasture which is used in conjunction with Buckbrush Allotment. Evaluations were completed for these allotments in 1990 and 1995. There were no major resource issues identified although both seedings showed a long-term downward trend. Specific note was made that grazing schedules have been followed and project maintenance has been good.

Past Objectives: Objectives in this allotment have been developed at the pasture level.

New Objectives: See individual pasture summaries.

Operator Information:

Buckbrush Allotment 10218

Operator Name	Active AUMs	Suspended AUMs	Exchange of Use	Season of Use	
Thomas Silvey	608	92	0	4/1-10/31	380 head including horses
Arriola Brothers	2189	370	0	4/1-10/31	30 head horse permit

Westfall Allotment 00227

Operator Name	Active AUMs	Suspended AUMs	Exchange of Use	Season of Use
Arriola Brothers	327	0	0	4/1-10/31

Data Summary

Pasture	Standards for Rangeland Health									Trends		
	1	2					3	4	5	Upland Long-term	Upland Short-term	Riparian Overall
		PFC	FAR U	FARN	FARD	NF						
		(miles)										
Buckbrush Seeding	PFC/PFC		1			0.75	FAR/PFC	N	FAR/PFC	D	SU	U
Buckbrush	PFC/PFC		3.75	3.25			PFC/PFC	N	PFC	SU	U	S
Turnout	PFC/FAR		2.5	3.5			FAR/FAR	N	PFC	S	S	ND
Mountain	PFC		3.75	1.5	1.75		PFC	N	ND	SU	S	ND
FFR	FAR						NF		FAR	S	S	NR
Gathering	PFC						PFC		PFC	SU	SU	NR
Salters/ State	PFC/PFC			2.25			FAR/PFC	N	FAR/PFC	SU	SU	ND
Westfall Seeding (00227)	FAR						FAR		FAR	D	S	NR

Grazing Schedule

Pasture	Reason for not meeting Standards 1-5		Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule		
	Caused by Current Grazing	Caused by Other Factors	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Buckbrush Seeding	2	2,3,5	4/1-4/30	4/1-6/30	10/1-10/31	4/1-5/1	4/15-5/15	8/1-8/30
Buckbrush		2	8/16-10/31	10/1-10/31	4/1-6/30	5/1-6/1 10/1-10/31	7/1-8/30	4/1-6/1
Turnout		1,2,3	4/1-5/15	4/1-6/30	10/1-10/31	7/1-8/15	10/1-10/31	6/1-6/30
Mountain	2	2	5/15-8/15	7/1-9/30	7/1-9/30	5/1-6/31	9/1-9/30	9/1-10/31
Gathering			GATHERING			GATHERING		
Salters/State		2,3,5	8/16-10/31	10/1-10/31	4/1-6/30	8/15-9/30	5/15-6/30	7/1-7/30
Westfall Seeding (00227)			8/16-10/31	10/1-10/31	4/1-6/30	REST	4/1-4/15	REST

Pasture Summaries:

Pasture: Buckbrush Seeding (01)
Past Objectives: Improve the quality of deer/antelope winter range. Improve the middle ecological condition of the upland vegetative community.
New Objectives: The long-term objective is to improve ecosite condition of the native vegetation communities to attain middle condition or DRFCs. Apply wildlife (improve/maintain), riparian (improve), and seeding #2 objectives.
Data Summary: The upland watershed function and wildlife habitats on the native vegetation communities are in or are making significant progress toward properly functioning condition. The upland objective is not being met. Riparian habitats are not properly functioning due to historic and current grazing and geological influences. Ecological processes and wildlife habitats in the seeding are not properly functioning due to historic grazing which has reduced the grass/forb component. Annual rangelands are an issue of concern.

Pasture: Buckbrush (02)
Past Objectives: Improve the quality of deer/antelope winter range. Improve the middle ecological condition of the upland vegetative community.
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply wildlife (maintain), riparian (improve) and upland (improve) objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are in or are making significant progress toward properly functioning condition. Upland trends indicate the pasture is meeting the upland objective. Riparian habitats are not functioning properly due to historic grazing. Annual rangelands (lower portions of the pasture have more than 25% annual grass cover) and special status species (near 2 sage grouse leks) are issues of concern.

Pasture: Turnout (03)
Past Objectives: Improve the quality of deer/antelope winter range. Improve the early ecological condition of the upland vegetative community.
New Objectives: The long-term objective is to improve ecosite

condition to attain middle condition or DRFCs. Apply riparian (improve) and upland (improve/maintain) objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitat at one assessment site are in or are making progress toward properly functioning condition. At a second assessment site, the upland watershed function, ecological processes and riparian habitat are not functioning properly due to historic grazing. Upland trends indicate that the pasture is not meeting the upland objective. Annual rangelands are an issue of concern.

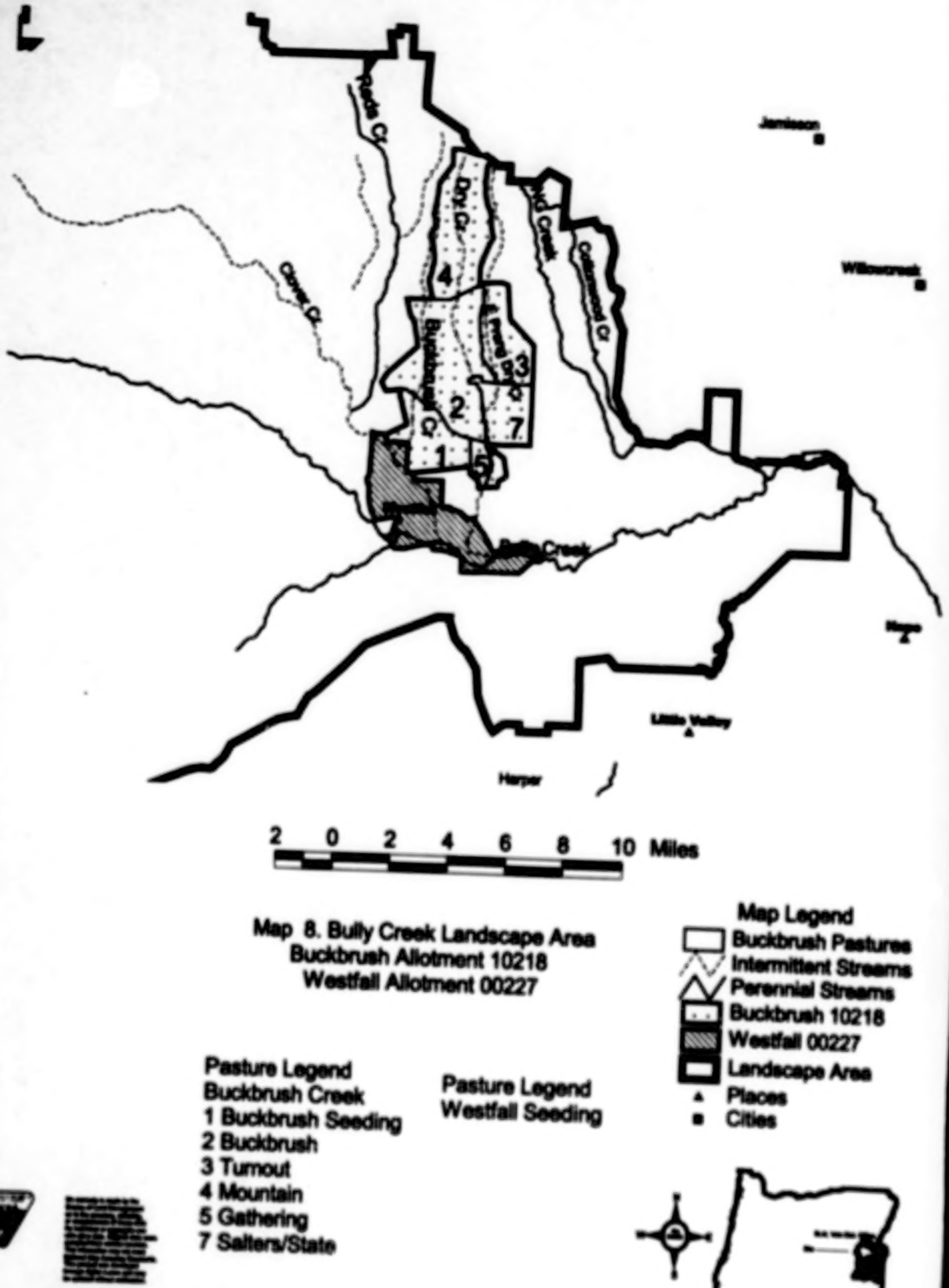
Pasture: Mountain (04)
Past Objectives: Maintain the late ecological condition of upland vegetative communities.
New Objectives: The long-term objective is to maintain the ecosite condition at late condition or DRFCs. Apply riparian (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function and ecological processes are in or are making significant progress toward properly functioning condition. Upland trends and SRH indicate the pasture is meeting the upland objective. Riparian habitats are not properly functioning due to historic grazing and current season-of-use. Special status species (sage grouse leks) are an issue of concern.

Pasture: FFR (05)
Past Objective: None
New Objective: None
Data Summary:

Pasture: Gathering (06)
Past Objectives: Improve the early ecological condition of upland vegetative communities.
New Objectives: The long-term objective is to improve ecosite condition to attain middle condition or DRFCs. Apply upland (maintain) objective.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are in or are making significant progress toward properly functioning condition. Upland trends and SRH indicate that the pasture is moving towards the upland objective. Annual rangelands are an issue of concern although the condition is improving.

Pasture: Salters /State (07)
Past Objectives: None. In 1990, this was a newly established pasture and no upland objectives were assigned at that time.
New Objectives: The long-term objective is to improve ecosite condition to attain middle condition or DRFCs. Apply riparian (improve), wildlife (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function (one assessment site for ecological processes and one assessment site for wildlife habitats) are in or are making significant progress toward properly functioning condition. Riparian habitats assessed are not properly functioning, but the cause is unknown. One assessment site each for ecological processes and wildlife habitats are not properly functioning due to historic grazing which has resulted in an invasion of weeds. Upland trends show a slight improvement. Annual rangelands, and weeds (whitetop, tumble mustard) are issues of concern.

Pasture: Westfall (00227)/Westfall Seeding (01)
Past Objectives: Improve the quality of deer/antelope winter range by managing for 55% grasses, 25% forbs, and 20% shrubs.
New Objectives: The long-term objective is to improve ecosite condition of the native vegetation communities to middle condition or DRFCs. Apply wildlife (improve), upland (improve) and seeding #2 objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are not functioning properly. This is due to historic grazing which resulted in reduced litter and cover, changes in cover distribution, lack of grass understory and no seed production or recruitment. There is a lack of community structure, excessive exotic species and no vegetative diversity. The shrub component is good. Upland objectives are not being met. Annual rangelands (high populations of whitetop and Scotch thistle) and wildlife (deer and pronghorn winter range) are issues of concern.



Map 8. Bully Creek Landscape Area
Buckbrush Allotment 10218
Westfall Allotment 00227

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Willow Basin Allotment (10222)

Allotment Summary: Evaluations were conducted for this allotment in 1985 and 1995. Resource issues, including downward trends and riparian management, were addressed. As a result, some livestock use was suspended and a new grazing system implemented.

Past Objectives: Objectives in this allotment have been developed at the pasture level.

New Objectives: See individual pasture summaries.

Operator Information:

Operator Name	Active AUMs	Suspended AUMs	Exchange of Use	Season of Use
Indian Creek Ranch	7006	1117	249	4/1-10/31

Data Summary

Pasture	Standards for Rangeland Health									Trends		
	1	2					3	4	5	Upland Long-term	Upland Short-term	Riparian Overall
		PFC	FARU	FARN	FARD	NF						
				(miles)								
Juniper Springs	PFC			4.25			PFC	N	FAR	S	S	ND
North Cottonwood Seeding	FAR/PFC	0.25	0.5				FAR/PFC	N	PFC/PFC	SD	SU	U
Indian Creek	PFC/PFC		3.5				PFC/PFC	N	PFC/PFC	U	U	ND
Panhandle	PFC			1			PFC	N	PFC	S	SU	ND
North Fork	FAR		0.25				FAR	N	PFC	S	SU	ND
State Block	PFC			1.5			PFC	N	PFC	ND	S	ND
Willow Basin Creek	PFC	To be assessed in FY99					PFC		FAR	S	S	ND
Bully Creek	PFC	8.5	3.75	2	5		PFC-	N	FAR	U	SU	D
FFR	ND						ND		ND	ND	ND	NR
Shroyer FFR	ND						ND		ND	ND	ND	NR
FFR	ND						ND		ND	ND	ND	NR

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Grazing Schedule

Pasture	Reason for not meeting Standards 1-5		Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule		
	Caused by Current Grazing	Caused by Other Factors	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Juniper Springs	2, 5	2, 5	6/1-8/1	7/16-10/1	4/1-5/1 7/15-10/31	5/1-6/1	7/1-8/15	7/1-10/31
North Cottonwood Seeding		1, 2, 3	3/15-4/30	3/15-4/30	5/1-7/15	4/1-5/1	5/1-6/15	4/1-5/1
Indian Creek	2	2	6/1-8/1	6/15-10/1	3/15-5/1 7/15-10/31	4/1-6/1	4/1-5/1	7/1-10/31
Panhandle	2	2	3/15-4/30	3/15-4/30	5/1-7/15	4/1-5/1	5/1-6/31	4/1-5/1
North Fork		2, 3	3/15-4/15	4/1-4/30	5/1-7/15	5/1-6/1	4/1-4/30	4/1-5/1
State Block		2	4/15-5/15	7/16-9/30	4/1-7/15	10/1-10/31	7/1-8/15	7/1-10/31
Willow Basin Creek	5	5	8/1-10/31	5/1-7/15	7/16-10/31	7/1-10/1	8/16-9/15	5/1-7/1
Bully Creek	2, 5	2, 5	4/1-6/1	9/20-10/31	REST	6/1-7/1	9/15-10/30	5/1-7/1

Pasture Summaries:

Pasture: Juniper Springs (01)
Past Objectives: Improve middle ecological condition to late ecological condition of upland vegetative communities (1991 AMP - no time frames established).
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply wildlife (improve), riparian (improve), and upland (maintain) objectives.
Data Summary: The upland watershed function and ecological processes are in or are making significant progress toward properly functioning condition. Upland trends indicate the pasture is not meeting the upland objective. Riparian and wildlife habitats are not properly functioning due to historic grazing, current season-of-use (hot season grazing) and deer impacts. This has resulted in high sediment loads in the stream. There is decadent bitterbrush with no reproduction and declining sagebrush communities. Cultural resources, juniper invasion and special status species (4 sage grouse leks adjacent to the pasture) are issues of concern.

Pasture: North Cottonwood Seeding (02)
Past Objectives: Improve riparian zone along Indian Creek.
New Objectives: The long-term objective is to improve ecosite condition in the native vegetation communities to attain middle condition or DRFCs. Apply riparian (improve) upland (maintain) and seeding #3 objectives .
Data Summary: The native portions for the upland watershed function and ecological processes are in or are making significant progress toward properly functioning condition. Wildlife habitats are properly functioning in the entire pasture. The seedings are not properly functioning due to historic grazing resulting in a weakened seeding, bare ground and whitetop and cheatgrass invasions. The riparian watershed function is not properly functioning due to historic grazing and old dam structures (there are hydrological problems in the upper segments of the stream). Riparian

trends indicate the riparian objective is being met. Annual rangelands are an issue of concern.

Pasture: Indian Creek (03)
Past Objectives: Improve middle ecological condition to late ecological condition (1991 AMP no time frames established).
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply wildlife (maintain), riparian (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are in, or are making significant progress toward, properly functioning condition. Upland trends indicate the pasture is moving towards meeting the upland objective. Riparian watershed functions are not properly functioning due to historic and current grazing and upstream reservoir controls which have resulted in juniper invasion and Russian knapweed problems. Where the trend plot is located, there was an enormous amount of aroga moth kill noted during 1998 monitoring. Annual rangelands, wildlife (deer habitat), special status species (sage grouse), juniper invasion and weeds (Russian knapweed) are issues of concern.

Pasture: Panhandle (04)
Past Objectives: Improve early ecological condition to middle ecological condition (1991 AMP - no time frames established).
New Objectives: The long-term objective is to improve ecosite condition to attain middle condition or DRFCs. Apply riparian (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are in or are making significant progress toward properly functioning condition. The long-term upland trends are not meeting the upland objective; however, data show uplands are improving over the short-term. Riparian watershed functions are not properly functioning due to reservoir controls in the segment below the ranch. Annual rangelands, special status species (sage grouse), wildlife (deer habitat; shrikes) and weeds (Russian knapweed) are issues of concern.

Pasture: North Fork (05)
Past Objectives: Improve the riparian zone along the NF Bully Creek (identified to be in early seral condition in 1991 AMP). There were originally two North Fork pastures (East & West) identified in this allotment from the 1981 AMP. The 1991 AMP shows only 1 pasture with a riparian objective. The original North Fork West Pasture objective was to improve condition from middle ecological condition to late ecological condition within 15 years (by 1996).
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply riparian (improve) and upland (improve) objectives.
Data Summary: The upland watershed function and wildlife habitats are in or are making significant progress toward properly functioning condition. Upland trend indicates the uplands are improving over the short term but not meeting upland objectives. Although the site has considerable potential, ecological processes, including riparian watershed functions, are not properly functioning. Annual rangelands and weeds (Russian knapweed) are issues of concern.

Pasture: State Block (06)
Past Objectives: Improve middle ecological condition to late ecological condition (1991 AMP - no time frames established).
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply wildlife (maintain), riparian (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are in or are making significant progress toward properly functioning condition. Upland trend indicates the pasture is not meeting the upland objective. Riparian watershed functions are not properly functioning due to reservoir controls. Annual rangelands, wildlife (deer and pronghorn habitat) and special status species (three sage grouse leks) are issues of concern.

Pasture: Willow Basin Creek (07)
Past Objectives: Improve middle ecological condition to late ecological condition of upland vegetative communities (1991 AMP no time frames established).

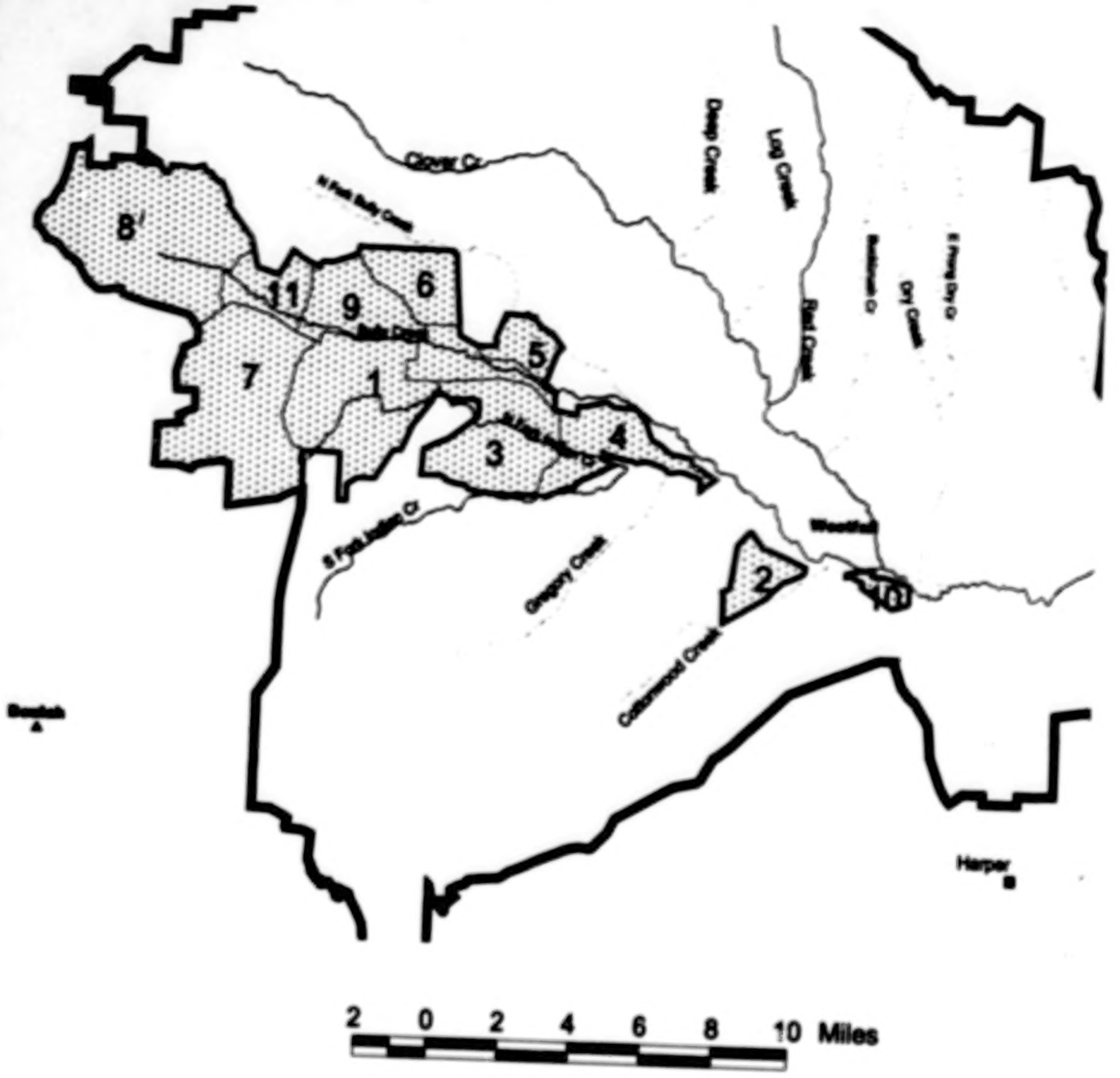
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply wildlife (improve), riparian (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function and ecological processes are in or are making significant progress toward properly functioning condition. Forage production is suffering and bitterbrush is overused. Upland trend indicates the pasture is not meeting the upland objective. The uplands should have more vegetative cover and juniper invasion may be a problem. Based on professional judgment, riparian watershed functions and wildlife habitat are not properly functioning due to historic and current grazing season-of-use (hot season). The Beaver Dam Creek WSA (1,622 acres) lies in the northwest corner of the pasture. Annual rangelands, wildlife (deer, pronghorn and elk), special status species (five sage grouse leks, redband trout, spotted frog) and weeds (Russian knapweed) are issues of concern.

Pasture: Bully Creek (08)
Past Objectives: Improve riparian areas of North, South Bully Creek, Puckett Creek, McArthur Creek, and Godding Creek (1991 AMP - no time frames established or other parameters).
New Objectives: The long-term objective is to improve ecosite condition to maintain late condition or DRFCs. Apply wildlife (improve), riparian (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function and ecological processes are in or are making significant progress toward properly functioning condition. Upland trend indicates that the pasture is not meeting the upland objective. Mountain sagebrush is decadent, and juniper and weeds are encroaching into all communities. Riparian and wildlife habitats are not properly functioning due to current and historic grazing and fire suppression. This has resulted in eroding soils and heavy sediment deposits. There is no regeneration of aspen/willow/birch. The Beaver Dam Creek WSA (8,366 acres) lies within the pasture. There has also been an increase in wood cutting in the drainage. Wildlife (elk, deer, songbird habitat), juniper invasion, special status species (sage grouse lek, redband trout), weeds (spotted knapweed at headwaters of South Bully Creek) and recreation (a lot of hunter camps in the pasture; new OHV tracks developed into Puckett Creek) are issues of concern.

Pastures: FFR (09)
Past Objectives: None
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply wildlife (improve) and upland (improve) objectives.
Data Summary: The Beaver Dam Creek WSA in pasture (09) consists of 57 acres. Annual rangelands and special status species (sage grouse lek is close) are issues of concern.

Pasture: Shroyer FFR (10)
Past Objectives: None
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply riparian (improve) and upland (improve)objectives.
Data Summary: Annual rangelands are an issue of concern.

Pasture: FFR (11)
Past Objectives: None.
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply wildlife (improve) and upland (improve) objectives.
Data Summary: The Beaver Dam Creek WSA in pasture (11) consists of 1,064 acres. Special status species (one sage grouse lek) is an issues of concern.



Map 9. Bully Creek Landscape Area
Willow Basin Allotment 10222

Pasture Legend
Willow Basin

1 Juniper Springs
2 North Cottonwood Seeding
3 Indian Creek
4 Panhandle
5 North Fork
6 State Block
7 Willow Basin
8 Bully Creek
9 FFR
10 Shroyer FFR
11FFR

Map Legend

Intermittent Streams
Perennial Streams
Willow Basin Pastures
Willow Basin Allotment 10222
Landscape Area
▲ Places
■ Cities

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Lava Ridge Allotment (10223)

Allotment Summary: Evaluations were conducted for this allotment in 1987 and 1991. The two seedings were shown to be heavily used with downward trends and the Bully Creek pasture was divided to provide better riparian management. No changes were made to the scheduled grazing.

Past Objectives: Objectives in this allotment have been developed at the pasture level.

New Objectives: See individual pasture summaries.

Operator Information:

Operator Name	Active AUMs	Suspended AUMs	Exchange of Use	Season of Use
Chris Davis	1722	0	0	4/1-10/31

Data Summary

Pasture	Standards for Rangeland Health									Trends		
	1	2 (miles)					3	4	5	Upland Long-term	Upland Short-term	Riparian Overall
		PFC	FARU	FARN	FARD	NF						
Hay Canyon	PFC		2	2.25			PFC	N	ND	S	U	ND
East Lava Seeding	FAR/PFC						FAR/PFC		FAR	D	SD	NR
West Lava Seeding	FAR/PFC						FAR/PFC		FAR	ND	ND	NR
North Bully Creek	FAR						PFC		FAR	ND	ND	NR
South Bully Creek	FAR		0.75	2			FAR	N	FAR	SU	SU	D
FFR	ND						ND		ND	ND	ND	NR

Grazing Schedule

Pasture	Reason for not meeting Standards 1-5		Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule		
	Caused by Current Grazing	Caused by Other Factors	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
East Hay Canyon		2	7/1-10/31	7/1-10/1	7/1-8/1	7/1-10/31	7/1-10/31	4/1-5/1
West Hay Canyon		2	7/1-10/31	7/1-10/7	7/1-8/1	5/1-7/1	5/1-7/1	REST To PVT: 5/1-7/1
East Lava Seeding		1, 3, 5	6/1-6/30	7/1-8/1	6/1-7/1	5/2-7/1	4/1-5/1	9/1-10/1

Pasture	Reason for not meeting Standards 1-5		Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule		
	Caused by Current Grazing	Caused by Other Factors	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
West Lava Seeding		1, 3, 5	5/1-5/30	6/1-7/1	6/1-7/1	4/1-5/1	5/1-7/1	9/1-10/1
North Bully Creek	1, 5		7/1-10/31	4/15-6/30	4/15-6/1	4/1-5/1	5/1-7/1	7/1-9/1
South Bully Creek	5	1, 2, 3, 5	3/20-4/30	3/15-4/30	3/15-4/15	5/2-6/15	4/1-5/1	4/1-5/1

Pasture Summaries:

Pasture: Hay Canyon (01)
Past Objectives: Maintain late ecological condition class (1986 AMP - no time frames established).
New Objectives: The long-term objective is to maintain ecosite condition at late condition or DRFCs. Apply wildlife (improve), riparian (improve) and upland (maintain) objectives.
Data Summary: Riparian watersheds are not properly functioning due to historic and current grazing season-of-use. Upland trends indicate the pasture is meeting the upland objective. Weeds (whitetop and Scotch thistle) are invading the riparian areas. Although wildlife is not an issue of concern, elk and deer frequent the area later in the year. Topographically, there are a lot of places for deer and pronghorn that are inaccessible to livestock. Special status species (one sage grouse lek) and juniper invasion are issues of concern.

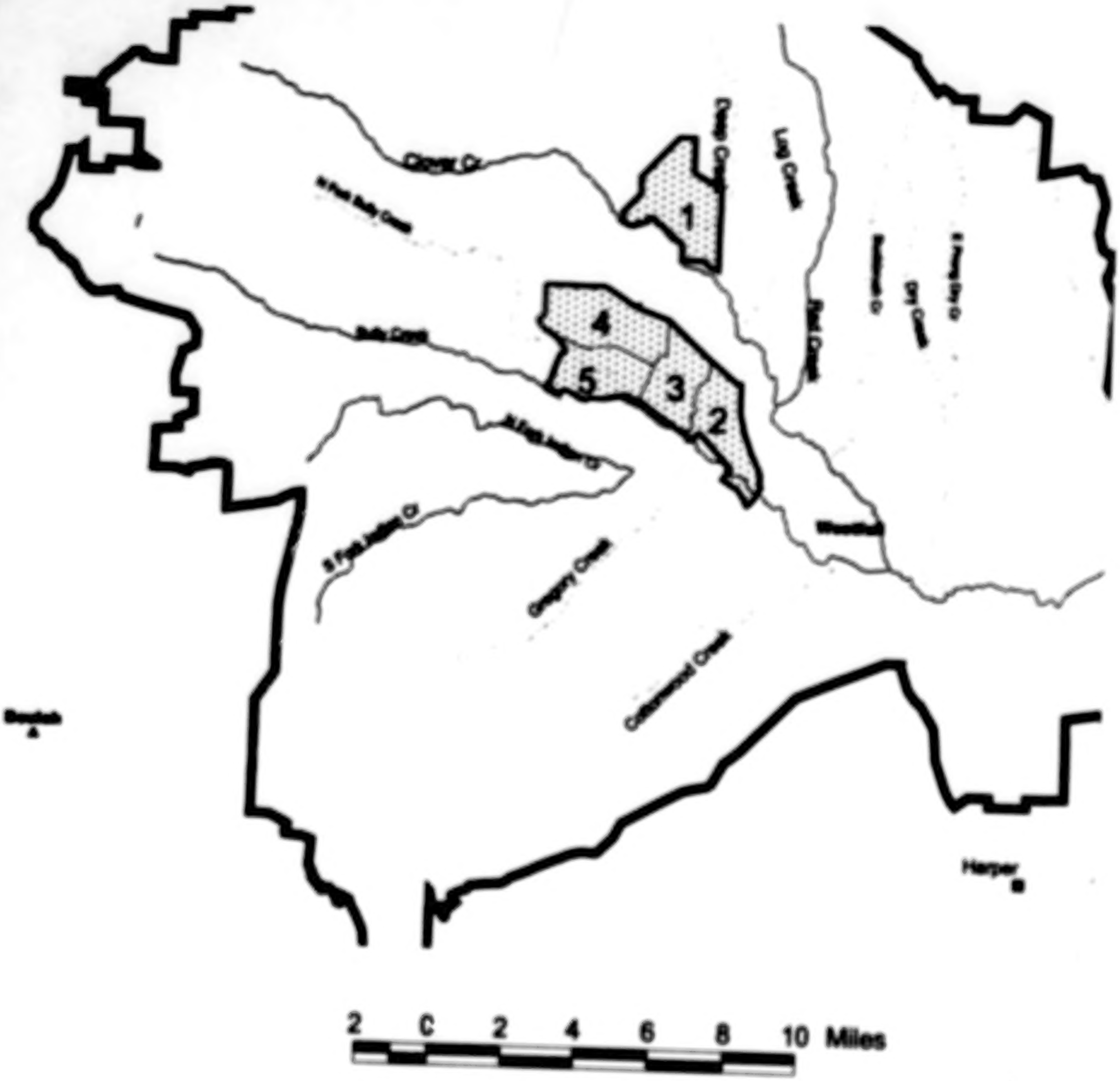
Pasture: East Lava Seeding (02)
Past Objectives: Improve early condition class to middle condition within 15 years, minimize wolf plant accumulation and maximize availability of fall green-up regrowth for wildlife.
New Objectives: The long-term objective is to improve ecosite condition of the native vegetation communities to attain middle condition or DRFCs. Apply wildlife (improve) upland (improve) and seeding #2 objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are not in properly functioning condition due to historic grazing. The seedings also receive heavy spring/summer pronghorn use. The long-term upland trend is down with short-term trend static to down. Annual rangelands, special status species (sage grouse; one lek in pasture with two leks nearby) are issues of concern.

Pasture: West Lava Seeding (03)
Past Objectives: Improve early ecological condition class to middle condition within 15 years, minimize wolf plant accumulation and maximize availability of fall green-up regrowth for wildlife.
New Objectives: The long-term objective is to improve ecosite condition of the native vegetation communities to attain middle condition or DRFCs. Apply wildlife (improve), upland (improve) and seeding #2 objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are not in properly functioning condition due to historic grazing. The seedings receive heavy spring/summer pronghorn use. The long-term trend for the East Lava Seeding is down with the short term trend static to down. No data are available for the West Lava Seeding but the East Lava Seeding trend data represents the West Lava Seeding. A minor part of an ACEC (117 acres) lies within this pasture but is not an issue of concern. Annual rangelands, special status species (sage grouse; three leks nearby) are issues of concern.

Pastures: North Bully Creek (04)
Past Objectives: Improve upland areas to late ecological condition over

the long-term. Within 15 years (by 2001) the short-term objective is to improve the pasture to middle ecological condition.
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply wildlife (improve) and upland (improve) objectives.
Data Summary: The ecological processes are in or are making significant progress toward properly functioning condition. When annual vegetation (shrub or grasslands) are taken into consideration this may not be the case. Upland watershed function and wildlife habitats are not properly functioning due to the current grazing season-of-use (not enough deferment and/or rest in the pasture). Livestock use is depleting sage grouse nesting habitat by removing grass understory. Upland trend indicates that the pasture is moving toward meeting the upland objective. A minor part of an ACEC (44 acres) lies within the pasture. Annual rangelands in the southeast area of the pasture and special status species (about 1/4 mile from sage grouse leks) are issues of concern.

Pasture: South Bully Creek (05)
Past Objectives: Attain an upward trend on both riparian and upland areas. Improve upland areas to late ecological condition over the long-term. Within 15 years (by 2001) improve the pasture to middle ecological condition. Improve at least half of the riparian areas to pristine condition by 1990.
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply wildlife (improve), riparian (improve) and upland (improve) objectives.
Data Summary: Upland watershed function, riparian watershed functions, ecological processes and wildlife habitats are not properly functioning due to historic grazing and possibly other unidentified causes. Weeds are a problem (a large portion of this pasture is in poor condition and is vulnerable to weed invasion). Annual rangelands and special status species (sage grouse habitat; shrike habitat) are issues of concern.



Map 10. Bully Creek Landscape Area
Lava Ridge Allotment 10223

Map Legend
Intermittent Streams
Perennial Streams
Lava Ridge Pastures
Lava Ridge Allotment 10223
Landscape Area
▲ Places
■ Cities

Pasture Legend
Lava Ridge
1 Hay Canyon
2 East Lava Ridge
3 West Lava Ridge
4 North Bully Creek
5 South Bully Creek

West Bench Allotment (20104)

Allotment Summary: An evaluation was completed for this allotment in 1993. The early seral conditions were noted and specific grazing management was implemented to promote upward trends.

Past Objectives: Objectives in this allotment have been developed at the pasture level.

New Objectives: See individual pasture summaries.

Operator Information:

Operator Name	Active AUMs	Suspended AUMs	Exchange of Use	Season of Use
Hyde	52	14	0	4/1-10/31
Bill Moore	100	28	0	4/1-10/31

Data Summary

Pasture	Standards for Rangeland Health									Trends		
	1	2					3	4	5	Upland Long-term	Upland Short-term	Riparian Overall
		PFC	FARU	FARN	FARD	NF						
		(miles)										
East	PFC						FAR		ND	S	ND	NR
West	PFC						PFC		ND	SU	ND	NR

Grazing Schedule

Pasture	Reason for not meeting Standards 1-5		Allotment Management Plan Grazing Schedule		Proposed Grazing Schedule	
	Caused by Current Grazing	Caused by Other Factors	Year 1	Year 2	Year 1	Year 2
East	3	3	6/1-7/15	4/16-5/31	4/15-7/1 or 7/15	7/15-9/30
West			4/16-5/31	6/1-7/15	7/15-9/30	4/15-7/1 or 7/15

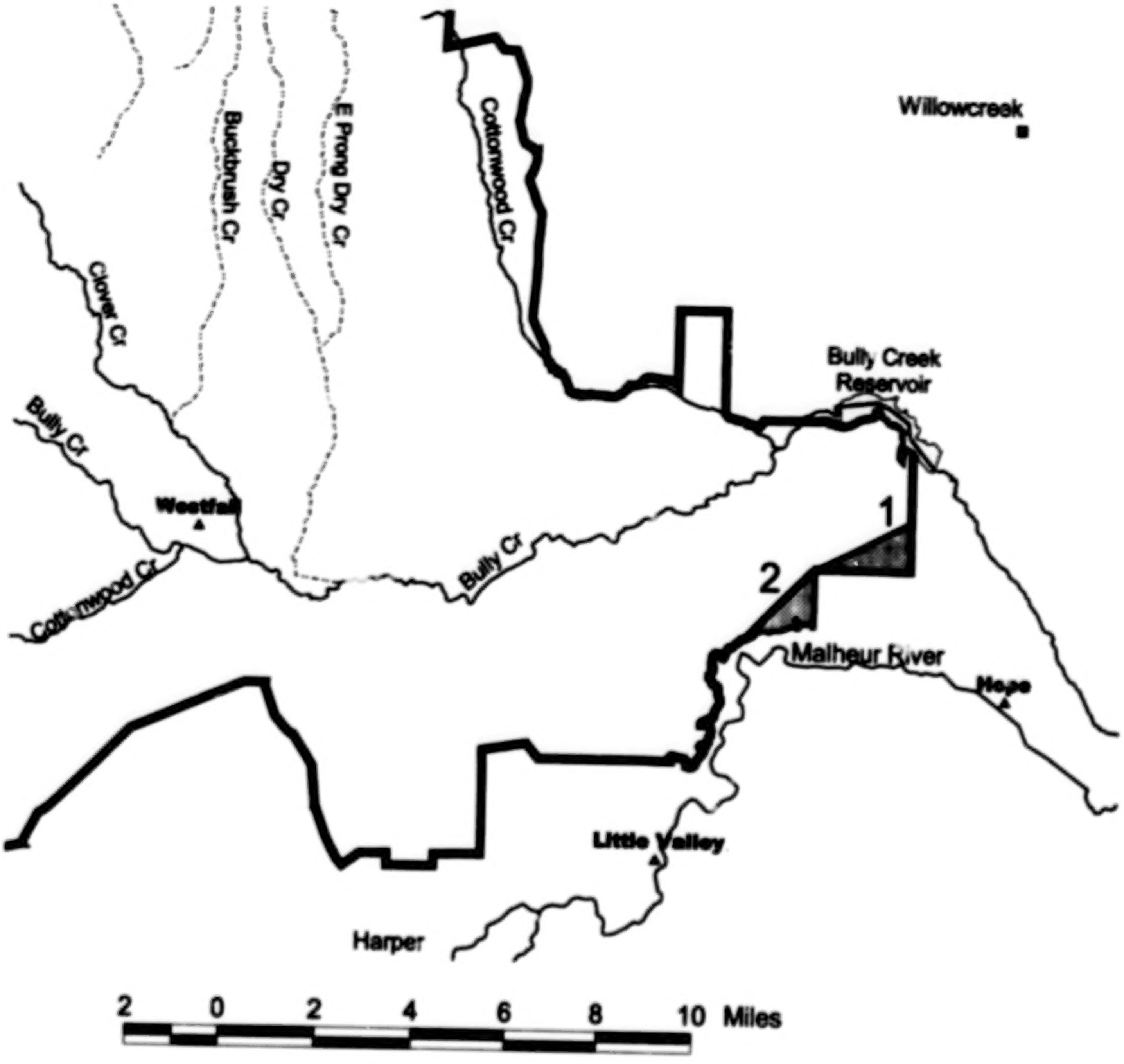
Pasture Summaries

Pasture: East (01)
Past Objective: Increase palatable winter browse production by 20% by 1990.

New Objectives: The long-term objective is to improve ecosite condition to attain middle condition or DRFCs. Apply wildlife (improve) and upland (improve) objectives.

Data Summary: The upland watershed function is in or making significant progress toward properly functioning condition. The ecological processes are not properly functioning due to historic and current grazing seasons of use resulting in invasion of annual weeds (Russian thistle and cheatgrass with some morning glory). Annual rangelands and wildlife (pronghorn winter range) are issues of concern.

Pasture: West (02)
Past Objectives: Increase palatable browse production by 20% by 1990.
New Objectives: The long-term objective is to improve ecosite condition to attain middle condition or DRFCs. Apply wildlife (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function and ecological processes are in or are making significant progress toward properly functioning condition. Historic and current grazing seasons of use have resulted in invasion of annual weeds (Russian thistle and cheatgrass). Annual rangelands and wildlife (pronghorn winter range) are issues of concern.



Map 11. Bully Creek Landscape Area
West Bench Allotment 20104

Map Legend

Intermittent Streams

Perennial Streams

Surface Water

▨ West Bench 20104

Landscape Area

▲ Places

■ Cities

Pasture Legend
West Bench
1 East
2 West

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C Allotments

Allotment Summary: Grazing in C allotments will remain authorized in conjunction with private lands as long as public land management objectives are met.

Allotment: Boston Horse Camp (00113)
Pasture: Boston Horse Camp (01)
Operator Information: Rex Knudson
Active AUMs: 83; Suspended AUMs: 162
Past Objectives: None
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply wildlife (improve), riparian (improve) and upland (maintain) objectives.
Data Summary: The upland watershed function and ecological processes are in properly functioning condition. Riparian watershed functions are not properly functioning due to historic grazing and current wildlife populations. Aspen regeneration is lacking. Issues of concern are special status species (one sage grouse lek nearby).

Allotment: Juniper Mountain (00134)
Pasture: Juniper (01)
Operator Information: Paul Martin
Active AUMs: 126; Suspended AUMs : 0
Past Objectives: None
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply riparian (improve) and upland (improve) objectives.
Data Summary: Part of Brady Creek is in this pasture above private lands. There are no data available or issues of concern.

Allotment: Cow Creek Individual (00144)
Pasture: Cow Creek (01)
Operator Information: Brian Carmichael
Active AUMs: 112; Suspended AUMs: 218
Past Objectives: None
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply riparian (improve) and upland (improve) objectives.
Data Summary: The upland watershed function and ecological processes are in poorly functional condition. The riparian areas need to be evaluated. Issues of concern include juniper.

Allotment: Scratch Post Butte (00228)
Pasture: Scratch (01)
Operator Information: Ironside Associates
Active AUMs:132; Suspended AUMs: 0
Past Objectives: None
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply wildlife (maintain), riparian (improve) and upland (improve) objectives.
Data Summary: The upland watershed function, ecological processes and wildlife habitats are in properly functioning condition. There is no data for the riparian areas. Juniper invasion and special status species (near two sage grouse leks; may have rare plants) are issues of concern.

Allotment: Post Creek Individual (00244)
Pasture: Post (01)
Operator Information: Anita and WM Butler
Active AUMs: 98; Suspended AUMs: 228
Past Objectives: None
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply riparian (improve) and upland (improve) objectives.
Data Summary: The upland watershed function and ecological processes are in properly functioning condition. Data was collected for riparian watershed functions during the FY 1995 Riparian Evaluations. There is no fence between Cow Creek Individual and Post Creek Individual C allotments. Issues of concern include juniper.

Allotment: Ferriers Gulch (10141)
Pasture: Ferriers (01)
Operator Information : Carl Mc d'Roe
Active AUMs: 28; Suspended AUMs: 26
Past Objectives: None
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply upland (improve) objectives.
Data Summary: Short-term upland trend is static (plot established in 1995). Juniper invasion may become an issue. There is no other data. No issues of concern have been identified in this pasture.

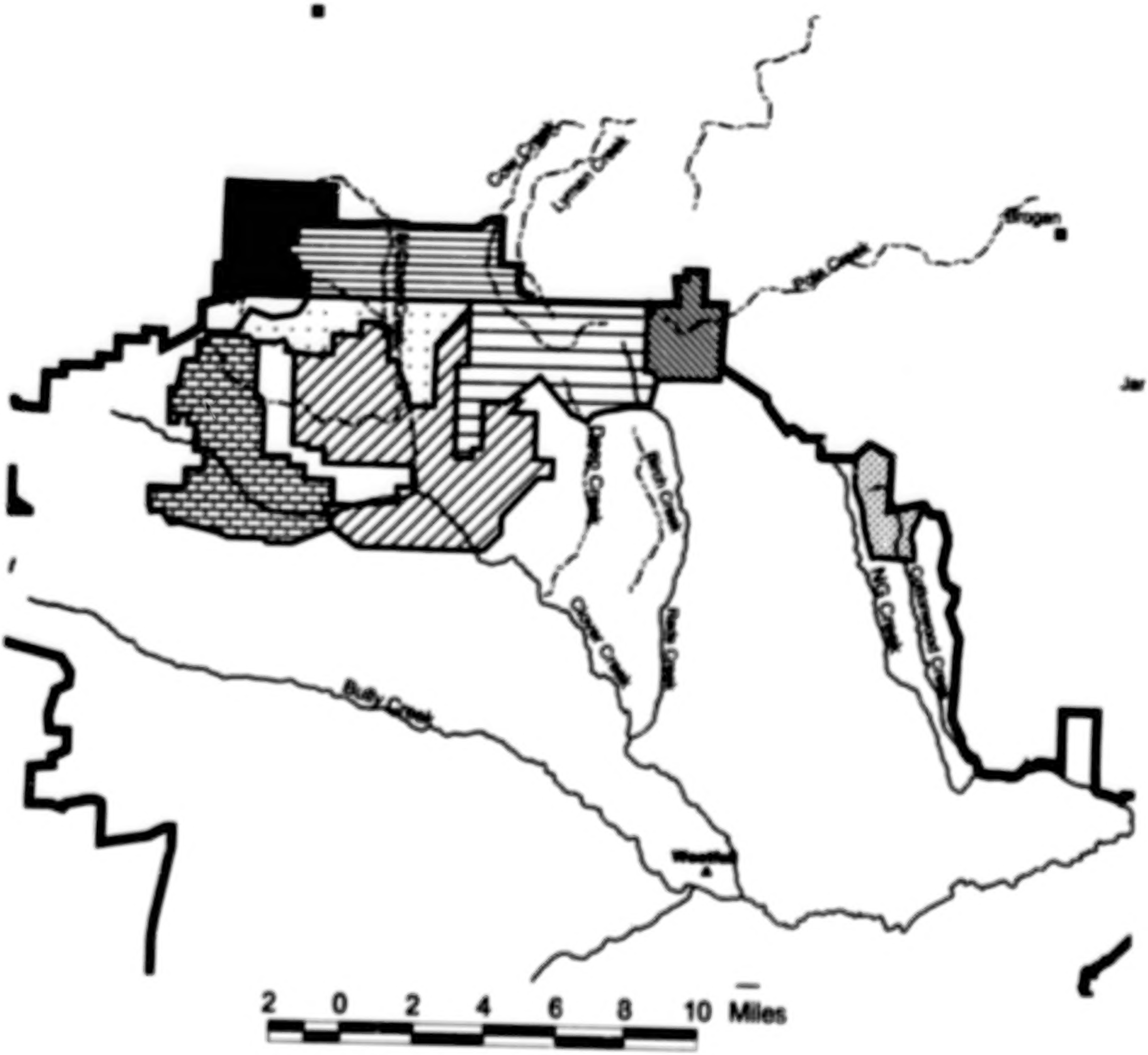
Allotment: Clover Creek Individual (10210)
Pasture: Clover Creek (01)
Operator Information: Charles Wilcox
Active AUMs: 248; Suspended AUMs: 205
Past Objectives: None
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply wildlife (improve), riparian (improve) and upland (improve) objectives.

Data Summary: The upland watershed function and ecological processes are in properly functioning condition. Special status species (sage grouse leks) are an issue of concern.

Allotment: West Clover Creek (10213)
Pasture: West Clover (01)
Operator Information:

	Active AUMs	Suspended AUMs
Rick Wilcox	23	20
William Rupp	212	180

Past Objectives: None
New Objectives: The long-term objective is to improve ecosite condition to attain late condition or DRFCs. Apply upland (improve) objective.
Data Summary: The upland watershed function and ecological processes are in properly functioning condition. Beaver Dam Creek WSA (394 acres) lies within this pasture. Juniper invasion is an issue of concern.



Map 12. Bully Creek Landscape Area
C Allotments

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

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1. INTRODUCTION

1.0 PURPOSE AND NEED

This Environmental Assessment (EA) has been developed to inform the public and the BLM decision maker of the environmental, technical and economic factors involved with implementing any one of three management strategies within the Bully Creek Landscape Area Management Project (LAMP). See Section I of the LAMP for a complete discussion of these topics.

1.1 CONFORMANCE WITH LAND USE PLANS

The Proposed Action is consistent with the analysis of significant impacts in several large-scale planning documents: the *Northern Malheur Management Framework Plan* (USDI/BLM 1979); the *Ironside Grazing Management Environmental Impact Statement* (USDI/BLM 1980a, 1980b); the *Rangeland Program Summary* (USDI/BLM 1982); and with the intent and management direction identified in the draft Interior Columbia Basin Ecosystem Management Project (ICBEMP) (USDI/BLM 1997), and the draft Southeastern Oregon Resource Management Plan/Environmental Impact Statement (SEORMP/EIS) (USDI/BLM 1998). The *Scientific Assessment* (USDA 1996a) and *Summary of Scientific Findings* (USDA 1996b) from the draft ICBEMP (USDA/USDI 1997) provided the broad-scale science used during the landscape area assessment in the LAMP. The 'science' was also used to develop subbasin level findings for the *Bully Creek, Willow Creek and Lower Malheur River Subbasin Review* (USDI/BLM 1998a). The *Bully Creek Watershed Assessment and Strategy* (BCWC 1997) and the draft *Malheur Basin Watershed Action Plan and Assessment* (MOWC 1998), two documents addressing watershed management activities on private land within the Bully Creek subbasin, were consulted and referenced during development of the Proposed Action.

1.2 RELATIONSHIP TO OTHER PLANS

The Bully Creek Watershed Coalition (BCWC) and the Malheur-Owyhee Watershed Council (MOWC) have prepared watershed assessments or strategies (BCWC 1997; MOWC 1998) which address resource concerns on adjoining and surrounding private land within the Bully Creek subbasin. The goals, objectives and resource concerns in these two documents are similar to those identified in the LAMP. Although BLM is the largest land manager within the landscape area, the success of ecosystem restoration relies on coordinating activities between all interested parties.

1.3 MANAGEMENT DIRECTIONS COMMON TO ALL ALTERNATIVES

Compliance with policy and direction for livestock grazing on public lands would follow the Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington (SRH) (USDI/BLM 1997; USDI/BLM 1998b-Appendix Q). The authorized officer shall take appropriate action as soon as practicable but not later than the start of the next grazing year upon determining, through assessment or monitoring, that a standard is not being achieved and that livestock are a significant contributing factor to the failure to achieve the standards and conform with the guidelines (43 CFR 4180.2).

Desired wildlife habitat conditions and mitigation measures, as described in the draft SEORMP/EIS Appendix F (USDI/BLM 1998b), would be followed to ensure projects and other management activities are designed and carried out to minimize negative impacts to wildlife species and their dependent habitats in the landscape area. This involves wildlife habitat security and human disturbances, impacts from structural projects, and vegetation management.

Best Management Practices (BMPs), as described in the draft SEORMP/EIS Appendix O (USDI/BLM 1998b), would be followed for activities involving road design and maintenance, surface-disturbing activities, rights-of-way and utility corridors, forest management, fire suppression, prescribed fires, livestock grazing management, mining, wildlife habitat protection, noxious weed management, and developed recreation. BMPs are designed to maximize beneficial results and minimize negative impacts of management actions. Interdisciplinary site-specific analysis may identify modifications necessary to minimize the potential for negative impacts.

Rangeland improvement projects would follow standards and design elements described in the draft SEORMP/EIS Appendix S (USDI/BLM 1998b). Design elements have been standardized over time to mitigate impacts encountered during construction. Specific design features have been developed for reservoir construction, well drilling, spring development, pipelines, fences, wildlife guzzlers, and prescribed fire.

2. ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.1 Alternative A - Proposed Action/Implement the Bully Creek LAMP

The Proposed Action would be to implement the recommendations as described in the Bully Creek LAMP (Section 7.0). Resource conditions are largely due to historic and current livestock grazing practices and associated activities, in addition to changes in fire patterns, behavior and frequency. Because livestock grazing has been the dominant use across the landscape, continued livestock grazing would be used as one of the management tools to achieve resource objectives. Therefore, the majority of the recommendations developed enable more effective livestock management. For example, allotment and pasture division fencing allows greater control of livestock within critical riparian areas, improves livestock distribution in uplands and seedings to encourage better forage utilization, helps improve overall habitat conditions, and alleviates impacts to sage grouse strutting, nesting and wintering areas. To further protect sensitive resources and focus on resource needs, specific forage utilization levels, season-of-use, and duration of use for livestock would be prescribed on a pasture-by-pasture basis. In addition, range-readiness criteria, and wildlife habitat restrictions have been designed to address sensitive resources (LAMP Appendix A, Tables A-11).

The recommendations proposed in the LAMP include a variety of activities where standardized descriptions and methods for implementation have been analyzed and adopted in existing land use plans and EIS's (USDI/BLM 1980a, 1980b, 1982, 1998b). The activities would include: (1) implementing a grazing management strategy for 20 allotments; (2) constructing rangeland improvement projects (springs, pipelines and water troughs, fences, reservoirs and windmills; conducting maintenance and reconstruction on existing projects); (3) upland (including forest ecosystems) and riparian habitat rehabilitation activities such as treating vegetation using prescribed fire, mechanical, chemical and biological control; and (4) various other follow-up monitoring, data collection and administrative activities to be conducted during the course of the project. These activities are also directly and indirectly related to other actions such as access management and revegetation.

Grazing schedules were developed considering pasture carrying capacity levels and are shown in the LAMP, Appendix C. These schedules would be implemented beginning in Fiscal Year (FY) 2000. To effectively implement the grazing schedules, specific rangeland improvement projects have been identified for construction beginning in FY1999. Those projects would be critical to maintaining a grazing program while protecting resources. Proposed projects and site-specific information would be further refined in subsequent years, prior to their implementation. The list of proposed projects and their anticipated construction/implementation year(s) is shown in the LAMP, Appendix A, Table A-10. This project list is based on current resource conditions, and is subject to additions or deletions, as conditions warrant, to meet stated objectives.

2.2 Alternative B - Suspension of Use

In 24 pastures within 8 allotments (see Table 1) where SRH (USDI/BLM 1997) are not being met, and current livestock grazing is determined to be the primary cause, livestock grazing would be suspended. This suspended use would be for a minimum of 3 years or until monitoring shows resource conditions are moving towards meeting the standards as defined in SRH guidelines and in the objectives described for the LAMP. Resumption of livestock grazing in those pastures would only be permitted where there is a reasonable expectation that grazing could occur without setbacks in recovery. Grazing schedules, forage utilization levels, and season of use in those pastures where grazing use is not suspended would be similar to the Proposed Action. In the pastures in each allotment still available for grazing, schedules would be developed to address the same resource objectives, concerns and issues as used for the Proposed Action.

Table 1. Allotments/Pastures Not Meeting SRH, Caused by Current Livestock Grazing Practices

Allotment	Pasture	Pasture Acreage	Allotment Acreage	AUMs suspended
Allotment #2	Mountain	10,916		
		Pasture Total 10,916	48,500	2,772
Allotment #3	Jones	10,320		
	North Black Canyon	5,488		
	Swamp Creek Seeding	4,012		
	North Studhorse	9,277		
	South Black Canyon	8,108		
	Upper Pole Creek	4,502		
	Lower Pole Creek	2,205		
	E. Cottonwood Seeding	2,506		
	W. Cottonwood Seeding	4,754		
		Pasture Total 51,172	77,694	7,357
Rail Canyon	Kitten Canyon	Pasture Total 6,115	22,639	0
Brian Creek	North NG Seeding	1,151		
	South NG Seeding	889		
	Mountain (N and S)	2,776		
		Pasture Totals 4,816	4,816	1,090
Buckbrush	Mountain	5,103		
	Buckbrush Seeding	2,795		
		Pasture Totals 7,898	20,067	951
Willow Basin	Juniper Springs	6,736		
	Willow Basin Creek	9,005		
	Bully Creek	10,015		
	Indian Creek	5,306		
	Panhandle	3,009		
		Pasture Totals 34,071	43,455	4,775
Lava Ridge	South Bully Creek	1,758		
	North Bully Creek	2,999		
		Pasture Totals 4,757	11,069	614
West bench	East	Pasture Total 626	1605	39
Total active AUMs in LAMP area allocated to livestock		42,366		
Total AUMs Proposed for Suspension		17,598		
% of Total AUMs Proposed for Suspension		41%		
Total Acreage Proposed for Suspension		120,371		
Total Acreage Currently being Grazed		266,579		
% of Total Acreage Proposed for Suspension		45%		
Number of Operators Potentially Impacted by Proposed Suspension		12		

Source : Malheur Resource Area Interdisciplinary Team, Vale District BLM, 1998.

Projects constructed with implementation of Alternative B would be similar to Alternative A, Proposed

Action (see the LAMP Appendix A, Table A-10). The projected year of construction would differ between the two alternatives. The priority of implementing vegetation manipulation projects (e.g., prescribed fire in communities dominated by juniper and seeding in cheatgrass range) would be unchanged so as to achieve SRH in vegetation communities dominated by woody or annual species. The priority of implementing structural rangeland projects (e.g., pasture division fences and water developments) in pastures which meet or are progressing toward meeting SRH would also not differ from the Proposed Action, since many of these projects are proposed to accelerate progress toward meeting SRH or meeting management objectives. The priority of constructing projects in pastures where SRH are not met or substantial progress has not been made would differ from the Proposed Action in that these projects would not be necessary until progress toward meeting SRH has been attained through livestock exclusion. Structural project construction in pastures where livestock are temporarily excluded would become a priority once the decision has been made to reintroduce livestock grazing.

2.3 Alternative C - No Action

Current management would continue within the landscape area as described in Section 5.0 of the LAMP. Livestock grazing would continue as described in existing Allotment Management Plans (AMPs), subject to evaluation, SRH assessment and modification in regular cycles. Implementation of rangeland improvement projects and other activities would occur as in the past on a site-specific basis as needed without considering the implications (positive or negative) the action(s) may have on the interconnected parts of the landscape area, including adjoining private land. Existing pasture-specific objectives stated in AMPs are outdated, and in some cases have not been met. For analysis purposes for this alternative, current management will be considered as that which is now occurring and will not attempt to define changes that may or may not occur as a result of evaluation and SRH assessment. Rangeland projects would occur at the same rate and extent as in the last 10 years in allotments in the landscape area.

2.4 Alternatives Considered But Not Analyzed in Detail

Additional actions were considered but will not be further analyzed. These are actions that either would not be consistent with current Land Use Plans, identified objectives, current law or policy or are not viable. Actions considered but not carried forward include the following:

- Complete elimination of livestock grazing. A No Grazing Alternative was analyzed in the Ironside Grazing EIS and was not selected for implementation and does not need to be analyzed again.

- Suspension of all activities within the landscape area. This would not be consistent with the current land use plans, laws or policy.

- More extensive rangeland improvement development beyond that which is financially viable.

3. AFFECTED ENVIRONMENT

The affected environment is described in the LAMP, Section 5.0.

4. ENVIRONMENTAL CONSEQUENCES

This section analyzes the potential beneficial and adverse environmental direct, indirect and cumulative impacts to resources by implementing any one of the three alternatives. This chapter is arranged by resources with each alternative discussed under each resource value. The baseline used for impacts is the current condition or situation as described in the LAMP, Section 5.0. More pasture-specific resource conditions are described in the LAMP, Appendix C. Impacts are projected to be short-term (0-10 years) and long-term (10-20 years). Refer to Appendix 1 for a comparative summary of the impacts affecting each resource by alternative.

4.1 AIR RESOURCES

4.1.1 Alternative A (Proposed Action)

The airshed rating in the landscape area is Class II *(Clean Air Act as amended 1990)*. Direct and indirect impacts from project implementation related to dust and smoke emissions would be localized and transitory in nature, even during peak use periods. Prescribed fire to restore ecosystem function in some vegetative communities (juniper woodlands and sagebrush habitats) would be conducted over the course of LAMP implementation. This activity is expected to increase the release of overall emissions, but would not exceed the impacts as addressed under Alternative C of the Draft SEORMP/EIS (USDI/BLM 1998b). The exact acreage, location and timing of prescribed fire would be specified and impacts addressed, as necessary, in subsequent NEPA analysis and in fire management plans. Any prescribed fire would be conducted to conform to applicable State and Federal air quality standards, and no long-term smoke impacts are expected. The Rail Canyon prescribed fire would be initiated, as approved, during 1999 (EA No. OR-030-98-014).

4.1.2 Alternative B (Suspended Use)

Under this alternative, the direct and indirect impacts from project implementation would be slightly less due to less prescribed burns.

4.1.3 Alternative C (No Action)

Minor short term impacts to air quality may occur during the Rail Canyon prescribed fire scheduled for implementation in 1999 (EA No. OR-030-98-014). Under this alternative, impacts to air quality would be less than under Alternative A (Proposed Action) due to fewer prescribed burns.

4.2 GEOLOGY, ENERGY and MINERAL RESOURCES

4.2.1 All Alternatives

As none of the alternatives propose to restrict opportunities for energy and mineral exploration and development in the landscape area, there would be no adverse impacts to these resources, regardless of the alternative implemented.

4.3 SOILS

4.3.1 Alternative A (Proposed Action)

Analysis of the data collected during the SRH assessment process determined that 40-100 percent of the sites assessed within 20 pastures showed deficiencies in meeting Standard 1 (see Table 2 of the LAMP) dealing with the upland watershed functions (see Appendix C of the LAMP). Soils at these sites showed deficiencies in either infiltration and permeability rates, moisture storage or stability from appropriate levels expected for this climate and landform.

Eighty-nine pastures of the total 109 assessed within the LAMP where soil processes are meeting the standards would continue to improve towards desired range of future conditions (DRFCs). In the 20 pastures where soils are preventing the attainment of Standard 1 (Upland Watershed Function), the Proposed Action would allow progress towards meeting the standard and DRFCs. Proposed grazing schedules with vegetation utilization limits developed with the Proposed Action would allow more vegetation to remain in areas thereby retaining adequate plant litter to maintain soil productivity and limit accelerated erosion.

Implementation of maximum allowable utilization levels and stubble heights (Table 7 of the LAMP) (measured at the end of the grazing or growing season (whichever comes first)) would provide adequate ground cover to protect soils from spring runoff. Range readiness criteria for early turnout and drought conditions (Table 8 of the LAMP) designed to protect soils from compaction and erosion would also ensure that upland and riparian soils could withstand grazing pressure.

Short-term direct and indirect impacts, as well as, long-term impacts are expected to occur from prescribed burns or other mechanical/chemical treatments to vegetation. Short-term direct impacts include increased soil compaction and displacement from any off-road vehicle use and increased sediment and soil movement from runoff entering watersheds and decreased water quality. Short-term indirect impacts could include the possibility of increased silt production into streams. The increased silt load would cover fish eggs and suffocate fry affecting populations of fish and amphibians until silt loads were scoured out of these stream reaches. Long-term impacts would be positive to soil conditions as desired vegetation would begin to reestablish and provide protection. Soil-water storage would improve with the reestablishment of native grasses and reduction of undesirable woody species in parts of the landscape area.

Implementation of the projects in the Proposed Action are expected to have short-term impacts to soils (erosion) due to soil and vegetation disturbance. Long-term impacts would be positive to soil conditions as desired vegetation begins to reestablish and provide protection. Soil-water storage would improve with the reestablishment of native grasses and reduction in encroaching juniper in parts of the landscape area. Surface disturbance would be kept to a minimum, and soils would be rehabilitated to blend into surrounding areas. Revegetation would occur as needed, with adapted perennial species to stabilize soils and preclude invasion and dominance of undesirable and weedy species. Existing roads and ways would be used, whenever possible. Any necessary off-road travel would be done to minimize impacts to soils and other resources. Where feasible, off-highway vehicles with large, low pressure tires would be used. Traveling through riparian areas would be avoided wherever possible.

Recreation activities (camping and off-highway vehicle use) and vehicle access would continue to cause moderate to low soil impacts in localized areas. Impacts result from compaction, surface runoff, and wind erosion. In several areas (Pole Creek and Rail Canyon), roads cross through riparian and aquatic habitats. There has been no proposal to relocate or close roads, and direct and indirect impacts to soils and downstream water quality is expected to continue in these areas.

4.3.2 Alternative B (Suspended Use)

Impacts to soil resources would be similar to Alternative A (Proposed Action). In areas where grazing is suspended for 3 years, soil resources would be positively impacted by the ungrazed vegetative cover and lack of surface disturbance. Those 89 pastures where soil processes are meeting the standards would continue to improve towards DRFCs. Where soils are preventing the attainment of the standards (20 pastures), Alternative B would allow progress towards meeting the standards and DRFCs. Long-term impacts to soil resources would be similar to the Proposed Action as grazing is allowed after attaining the standards. Implementation of the projects under this alternative would have similar impacts to soil resources as Alternative A (Proposed Action).

4.3.3 Alternative C (No Action)

Under current management strategies, impacts to soils resources would exist as they do at the present time. Those 89 pastures meeting Standard 1 and in functioning condition would remain as they are. Degraded conditions would continue in 20 pastures not meeting Standard 1. Grazing systems would need to be developed (through AMP revisions) which address resource problems, including recommendations to stabilize soils. Prescribed fire would not be as aggressive as Alternative A (Proposed Action), which may reduce short-term soil impacts, but may actually cause increased erosion in the long-term.

4.4 VEGETATION

4.4.1 Alternative A (Proposed Action)

4.4.1.1 Impacts to Upland Vegetation

Implementation of forage utilization limits and grazing schedules with periodic rest or deferment

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from critical growing season grazing would allow vegetation types with native and introduced perennial grasses to improve or remain stable. These actions would promote plant vigor, seed production, seedling establishment, root production, and litter accumulation for herbaceous plants in upland ecosystems. As a result, 22 of the 36 upland trend studies moving towards current upland objectives would continue to do so over the short-term (10 years). Little change in vegetation composition would be expected in types now dominated by annual species except where some type of vegetation manipulation and seeding would be applied.

Sagebrush and western juniper cover would be expected to decrease slightly and grass cover to increase correspondingly due to wildfire and vegetative manipulation projects such as prescribed fire, brush beating and seeding with native and desirable non-native species. Prescribed fire would cause a short-term decrease in vegetative cover with a long-term increase in herbaceous cover, species diversity, and forage production. Brush beating would alter species composition and increase herbaceous species composition and cover while increasing forage production. Seeding with native and desirable non-native species would improve perennial species diversity where a forb mixture is used and would improve cover and forage production. The combination of these type of projects would lead to more diverse and healthy vegetative communities, especially as areas that are dominated by annual or single species are converted to more diverse perennial species.

Sustained or slightly reduced livestock grazing would return plant litter to the soil. Long-term vigor and health of vegetation, including maintenance of soil stability and energy, nutrient, and water cycling, would be maintained across the landscape, except at localized areas of livestock concentrations and areas impacted by project development. Project development would directly impact and displace vegetative communities in the localized area of the project and cause increased trampling with associated impacts immediately adjacent to projects such as fences and water developments. In the long-term, project development will allow for implementation and maintenance of grazing schedules necessary to foster vegetative health and maintenance.

4.4.1.2 Impacts to Riparian Vegetation

An assessed 48 miles of lotic riparian vegetation communities adjacent to perennial or intermittent streams determined to be in proper functioning condition would remain functioning with proposed grazing schedules which limit hot season grazing use or implement utilization limits when fall or hot season grazing would be scheduled. Approximately 49 miles of riparian communities determined to be in functioning at risk with an upward trend would continue to improve, while a portion of 57 miles of riparian communities functioning at risk with a trend not apparent would improve. Implementation of appropriate grazing schedules or application of riparian utilization limits would improve trends in 35 miles of riparian vegetation communities found to be functioning at risk with a downward trend and 21 miles of riparian vegetation communities found to be non-functional where livestock use was identified as a factor limiting attainment of function. These same stretches of riparian vegetation communities occupy 56 of the total 109 pastures within the landscape area. Forty seven of these 56 pastures are not currently meeting standard 2 with current grazing management practices being the main factor within 18 of the pastures.

The rate of recovery of riparian function would be greatest where livestock grazing practices are currently limiting functionality[1]. Factors which may limit the attainment of riparian function and the progress of meeting riparian objectives include road placement and maintenance, stream flow affected by upstream reservoirs, upstream or downstream influences from private land, or juniper encroachment into riparian vegetation communities. Many incised stream reaches in nonfunctioning condition or functioning at risk with a downward trend due to historic or current livestock management practices would continue to downcut to a hard layer as a result of the continuation of hydraulic processes, regardless of proposed grazing practices. These stream reaches would improve in condition once hydraulic processes establish a new floodplain at the entrenched elevation. The time frame for improvement with dissipation of the energy within the stream and rebuilding of a floodplain may be in excess of 20 to 50 years.

Construction of Frog Riparian Fence, East Cottonwood Pasture Fence, West Cottonwood Pasture Fence, Kitten Canyon Pasture Fence, an allotment division fence in Rail Canyon Allotment, and a pasture fence in Brian Creek Allotment as well as the realignment of existing fences to create Rocke Riparian Pasture would provide management units where grazing schedules would be implemented in a manner consistent with maintenance and improvement of riparian resource values. Reconstruction or maintenance of exclusion fencing at NG Creek Exclosure, Zotto Reservoir, and Pence Spring Reservoir and livestock exclusion fencing at Pole Creek Spring would provide protection for the riparian resources and allow for the recovery of vegetation communities.

Under this Alternative, short-term improvement in forbs and perennial grass species, including Kentucky bluegrass and red top, would occur with limitations set on summer and fall grazing in riparian communities. The establishment and increased dominance of stream bank stabilizing sedges and rushes would occur in the mid-term provided that hot season and unauthorized grazing use did not occur. Over the long-term, dominance of late seral sedges and rushes would occur as extensive root systems bind stream bank soils.

The incidence of browsing on young woody species would be reduced, improving the survival of seedlings and suckers of riparian shrub species and desirable trees including aspens, willows, birch, and cottonwoods. Where potential exists, multi-aged shrub and deciduous tree composition within riparian vegetation communities would result. This would provide structural diversity perpetuating the physical and biotic benefits of long-lived riparian woody species. More of the soil profile would be occupied with roots providing more stabilization to the stream banks.

Coarse above-ground growth provided by herbaceous and woody species would provide increased stream bank and floodplain roughness and reduce the energy within the stream, thus stabilizing stream banks while holding water on site longer and recharging the aquifer. Sediment loads carried by the stream would be allowed time to settle out, building banks and providing seed-beds for further development of riparian species. Aquifer recharge, coupled with stream shading provided primarily by woody species together with overhanging banks, would extend stream flow through the year. As a result of the sponge action of functioning riparian communities, the extremes of high spring flow and downstream flooding would be minimized, while sustained flows during late summer are maintained when groundwater held in riparian communities re-enters the stream channel. Stream channel width to depth ratios would be reduced as a result of greater binding of the soil profile by woody and herbaceous species roots reducing the water surface area subject to solar radiation ans subsequently water temperature increase.

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[1] Current livestock management practices are limiting riparian function in Mountain Pasture of Allotment #2; North Black Canyon, East Cottonwood Seeding, West Cottonwood Seeding, Swamp Creek Seeding, North Studhorse, and Lower Pole Creek pastures of Allotment #3; Kitten Canyon Pasture of Rail Canyon Allotment; Mountain Pasture of Brian Creek Allotment; Buckbrush Seeding and Mountain pastures of Buckbrush Allotment; and Juniper Springs, Indian Creek, Panhandle, and Bully Creek pastures of Willow Basin Allotment.

Implementation of grazing schedules would have little effect on the dominance of western juniper in vegetation communities. Western juniper establishment and dominance is primarily a result of natural succession in the absence of periodic fire and will occur even in healthy upland and riparian vegetation communities where soils are not saturated. Juniper and sagebrush (woody species not associated with saturated riparian soils) would decline in dominance within wide lotic riparian vegetation communities over the long-term as root access to aerated soils is limited when aquifers are recharged and maintained. Proposed management actions to manipulate vegetation communities, including reduction in the dominance of western juniper in riparian communities, would occur in the South Gregory and Lower Pole Creek pastures of Allotment #3 and Juniper Springs, Willow Basin Creek, and Bully Creek pastures of the Willow Basin Allotment. Removal of western juniper trees from riparian communities would enhance stream bank stability and improve the soil-water balance by allowing for soil stabilization through increased dominance of more mesic herbaceous and woody species. Juniper reduction within the upland communities of these pastures would similarly improve the soil-water balance by providing opportunity for maintenance of diverse multi-layered vegetation communities which include scattered western juniper and limit sediment loads delivered to streams to natural levels. Additional projects which limit juniper occurrence in riparian vegetation communities of the Bully Creek geographic area (identified through the life of the plan using the adaptive management process) would similarly affect resource values when implemented.

Any additional vegetation manipulation projects which increase ground cover provided by herbaceous and shrub species would also contribute to development and maintenance of healthy and diverse vegetation communities which would subsequently limit sediment loads delivered to streams to natural levels.

4.4.1.3 Impacts to Special Status Plants

The two special status plant species, ochre-flowered buckwheat and Malheur cryptantha, are located on diatomaceous ash deposits in the subbasin. The two pastures supporting these two species were found deficient for Standards 3 and 5; however, current livestock management practices were not determined to be responsible for the deficiencies. Impacts from BLM's livestock grazing management decisions cause no known impacts to these two species due to the unique soil and topography that comprise their habitat. There has been some recent disturbance from OHV use on the steep, ash soils, but no other impacts have been identified.

There would be no anticipated impacts to the two plant species from proposed changes in grazing practices. Livestock would not utilize the steep slopes where these plants grow under the proposed season of use. No impacts would occur from the proposed seeding treatment, because the habitat supporting the species would not be directly affected, and crested wheatgrass seedlings have not become established on this soil type in the past.

4.4.1.4 Impacts to Aspen

Aspen vegetation is located in 20 of the total109 pastures within the Bully Creek subbasin area. Of the 24 pastures where SRH are not being met and current livestock grazing is determined to be the primary cause, 10 contain aspen vegetation. The proposed grazing systems would have little effect overall on the aspen communities within the Bully Creek subbasin in the short- or long-term. The proposed 3,200-acre prescribed fire project in Willow Basin and Bully Creek pastures of Willow Basin Allotment would allow moderate short- and long-term benefits to aspen regeneration. This large burn acreage in combination with implementing protective techniques for regenerating aspen would provide sufficient protection from big game and livestock for young aspen to grow. In the other 18 aspen pastures, a continuing decline in aspen health would occur until additional projects, such as prescribed fire, could be planned and implemented through the adaptive management process. These projects would similarly benefit resource values when implemented.

4.4.2 Alternative B (Suspended Use)

4.4.2.1 Impacts to Upland Vegetation

Impacts to vegetation are expected to be similar to Alternative A (Proposed Action) with the exception that short-term improvements to vegetative communities may occur at a slightly faster rate in those pastures where livestock are excluded. Fourteen of the 36 upland trend studies not meeting upland objectives would be expected to move towards meeting objectives in 3 years. Impacts as a result of vegetation manipulation projects and project development would be similar to Alternative A, although the timing and sequence of specific development may be somewhat different. Impacts to sagebrush and western juniper communities would be slightly greater under this alternative due to the expected increase in wildfire. Impacts to upland vegetative communities on private land would increase, in some cases to a high degree due to the 17,598 AUM reduction and removal of livestock from 24 pastures in 8 allotments comprising 45 percent of the public rangelands. Some operators would have to substantially increase grazing use on private or leased land for 3 years in order to maintain a viable operation. Impacts resulting from this increased use of private land would have adverse impacts to public land located downstream, most notably hydrologic impacts.

4.4.2.2 Impacts to Riparian Vegetation

Impacts of implementation of Alternative B to riparian vegetation communities would be similar to those identified in Alternative A (Proposed Action). Short-term recovery rates would be greatest along 57 miles of stream currently functioning at risk with a not apparent trend and along 35 miles of stream functioning at risk with a downward trend. Along 21 miles of stream non-functioning, little short-term improvement would be expected, especially where channels are deeply entrenched. The recovery of these non-functioning riparian reaches would be long-term as stated in the analysis for Alternative A. Adherence to grazing schedules would be similar to Alternative A for pastures where current livestock management was not leading to the failure to meet SRH. Rates of recovery would be similar to Alternative A. Following temporary exclusion of livestock from the 18 pastures identified above, continued recovery of riparian vegetation communities would occur at faster rates than Alternatives A and C.

Temporary removal of livestock from 18 pastures in Bully Creek geographic area in which Standard 2 was not met due to current livestock management practices (Table 1) would result in an improved short-term rate of riparian recovery as compared to Alterative A. Similarly, temporary removal of livestock from an additional 6 pastures in which Standards 1, 3, 4 and/or 5 were not met due to current livestock management practices would result in an improved short-term rate of recovery of riparian vegetation as compared to Alternative A.

Riparian vegetation recovery resulting from proposed projects would be similar to those identified in Alternative A. Site-specific recovery would be different from Alternative A with scheduled livestock exclusion from 18 pastures containing riparian resources. The difference would be a result of project implementation priorities.

4.4.2.3 Impacts to Special Status Plants

Two pastures supporting two special status plant species were found to be deficient for Standards 3 and 5; however, current livestock management practices were not determined to be responsible for the deficiencies. Consequently, 3 years of non-use would not be implemented under this alternative within the habitat of these species, and effects would be the same as described in Alternative A (Proposed Action).

4.4.2.4 Impacts to Aspen

Livestock would be excluded for a minimum of 3 years from 24 pastures, 10 of which contain aspen stands in poor condition caused by livestock grazing practices. In the Willow Basin and Bully Creek pastures, where a 3,200-acre prescribed fire has been proposed, moderate aspen regeneration would occur in the short- and long-term. The other 10 rested pastures with aspen, would not likely show substantial improvement in the short- or long-term since other factors besides livestock grazing practices have been identified as causing the aspen to be in poor condition. In these aspen pastures livestock grazing would continue and the health of aspen likely continue to decline under the new grazing systems until additional projects, such as prescribed fire, could be planned and implemented through the adaptive management process. These projects would benefit resource values when implemented.

4.4.3 Alternative C (No Action)

4.4.3.1 Impacts to Upland Vegetation

Trends and conditions identified in Section 6.0 and Appendix C of the LAMP would be expected to continue under current management strategies. Twenty two of the total 36 upland trend studies meeting objectives would remain stable with favorable climatic conditions. The remaining 14 upland trend studies not meeting upland standards and in a degraded condition, would continue in the same state. Negative impacts to these vegetative communities would continue until adjustments would be made to management practices. Impacts from vegetation manipulation projects would be similar to those in Alternative A (Proposed Action), but reduced as less projects are likely to implemented. Impacts from project development would be similar to Alternative A but may occur in different locations and at different rates.

4.4.3.2 Impacts to Riparian Vegetation

Forty eight miles of lotic riparian vegetation communities adjacent to perennial or intermittent streams determined to be in proper functioning condition, 49 miles of riparian communities determined to be in functioning at risk with an upward trend, and portions of 57 miles of riparian communities functioning at risk with a trend not apparent would continue as assessed. Thirty five miles of riparian vegetation communities found to be functioning at risk with a downward trend and 21 miles of riparian vegetation communities found to be non-functional where livestock use was identified as a factor limiting attainment of function would also continue as assessed.

Riparian function within stream reaches in 18 pastures not currently managed to maintain or improve riparian values and where Standard 2 was not met due to current livestock management would continue to function at risk or become nonfunctional and would support limited dominance of mesic sedges, rushes, shrubs and trees.

Development of projects would continue to occur with implementation of existing activity plans and authorizations, as needs would be identified. Impacts to riparian vegetation from implementing rangeland improvement projects, including fencing, water development, and vegetation manipulation, would be assessed on a project-specific basis as proposals for development would be received.

4.4.3.3 Impacts to Special Status Plants

Habitat for two special status plant species has not been affected by livestock grazing in the past due to the steep topography and soil type supporting these species. Continuation of current livestock grazing management would not affect the plants.

4.4.3.4 Impacts to Aspen

Under current management, aspen health would continue to decline throughout the subbasin. This decline would occur regardless of elevation, aspect, presence of juniper or current grazing systems. In recent years, three pastures (North Bully Creek, and East and West Crow Creek) were closed for 2 to 3 years to aid aspen regeneration. Elk and deer browsing was estimated at 80 percent of the current year's aspen leader growth in pastures where no livestock were present. The Rail Canyon prescribed fire project was initiated in 1999 to begin comprehensive treatment of aspen, uplands, forest stands and riparian areas in an attempt to stimulate aspen sprouting while reducing wildlife impacts and controlling livestock until aspen regrowth was well-established. Results will not be known for several years, but an integrated approach to this problem is believed to have the best chance for success for aspen regeneration.

4.5 WEEDS

4.5.1 Alternative A (Proposed Action)

The Proposed Action calls for controlling the proliferation of noxious weeds on an annual basis. This is expected to slow the spread of established stands of noxious weeds and reduce the establishment of new infestations. Mechanical, chemical, and biological control would be done in compliance with the integrated weed management policies and would not be expected to cause adverse impacts to desirable resources. Improving habitat conditions may result in fewer weed infestations; however, this benefit may not be realized on a landscape scale during the first 10 years of LAMP implementation.

4.5.2 Alternative B (Suspended Use)

Impacts of weed management would be similar to those identified in the Proposed Action. Suspended use of livestock alone would have very little effect on the overall weed populations. Without intervention, using herbicide treatment and seeding of desirable, competitive species, noxious perennial and annual weeds would continue to expand in heavily degraded areas. In areas where perennial grasses and shrubs can respond from no grazing pressure, competition from the healthier communities may retard new establishments of invading noxious weeds.

4.5.3 Alternative C (No Action)

Impacts of weed management would be the same as identified under Alternative A (Proposed Action).

4.6 FIRE HISTORY AND MANAGEMENT

4.6.1 Alternative A (Proposed Action)

With the exception of drought years, it is expected that there will be adequate fine fuels to carry wildfire. It is expected that average annual wildfire numbers and acreage would continue to fluctuate as in the past.

Under the Proposed Action, prescribed fires would be conducted in areas of the landscape where vegetation communities are not meeting resource objectives for diversity, composition, structure, and wildlife habitat needs. The use of prescribed fire would increase slightly over current levels. Prescribed fire would reduce the amount of burnable fine fuels which, in turn, may slightly reduce the number of large wildfires and average annual acres burned.

4.6.2 Alternative B (Suspended Use)

The amount of fine fuels available to carry wildfire would increase in the short-term due to no grazing on 45 percent (see Table 1) of the landscape. This in turn is expected to increase the number of large wildfires and the average annual acres burned. The impacts to resources from prescribed burning under this alternative would be the similar to those described for the Proposed Action.

4.6.3 Alternative C (No Action)

Under current management strategies, additional prescribed burns have not been proposed, although this still remains an option. The Rail Canyon Prescribed Fire, initiated in 1999, would be completed in the next one to two years. The impacts from any prescribed burns would be the same as described for the Proposed Action.

4.7 HYDROLOGY AND WATER QUALITY

4.7.1 Alternative A (Proposed Action)

Implementation of the Proposed Action would improve water quality through increased health of uplands and riparian areas. Grazing management strategies, including construction of pasture division fences to create riparian pastures, developing water sources outside of riparian corridors, herding livestock, and utilization limits, particularly in riparian zones, would increase vegetation and soil stability which contribute directly to water quality. Proposed grazing schedule changes limiting grazing in riparian areas during the hot season and late in the fall season (LAMP, Appendix C) would increase woody vegetation, creating better shade which would lower water temperatures. Limited and early season use of herbaceous riparian vegetation would allow for regrowth of the vegetation by mid-summer, stabilizing streambanks and increasing the filtering of sediments. Limited use of riparian areas would also decrease coliform input and erosion due to hoof action. With the Proposed Action, water quality would continue to improve towards DRFCs in those areas meeting standards. Where water quality is limited, the Proposed Action would allow progress towards meeting the standards and DRFCs.

The hydrologic function and water quality of streams is expected to improve over current levels in both the short- and long-term. Short-term negative impacts to surface water quality would result from projects outlined in the LAMP. Infiltration rates are likely to decline immediately following prescribed burns, seedings, and brush controls causing an increase in overland flows. Prior to vegetation regrowth, areas subjected to high intensity storms would contribute to flashy runoff, and erosion and sediment transport would be increased. Fence projects would contribute to short-term soil instability that would negatively impact water quality. Fences aimed at lessening grazing impacts to riparian areas would increase riparian vegetation communities positively influencing water quality and hydrology. Over the long-term, vegetation treatments would increase desirable herbaceous, shrub, and tree species which would contribute to landscape stability and improve water quality.

Major access roads which cross through streams would continue to negatively impact hydrologic functions and water quality. Crossings which are not hardened, repeated crossing points, and high frequency access points would cause an increase in localized disturbances and downstream sediments. These impacts are expected to continue under the Proposed Action.

4.7.2 Alternative B (Suspended Use)

Implementation of Alternative B would have similar impacts as the Proposed Action. In areas where grazing is suspended for 3 years, water quality would be accelerated. The removal of livestock would eliminate fecal coliform inputs for 3 years. Erosion would decrease due to the lack of soil disturbances, creating less sediment loading in streams over the short-term. Grazing impacts on riparian vegetation would be eliminated over the short-term allowing the vegetation to positively impact stream temperatures and provide bank stability. Alternative B would continue to improve water quality towards DRFCs in those areas meeting SRH. Where water quality is limited, the Proposed Action would allow progress towards meeting the SRH and DRFCs. Short-term and long-term impacts to water quality as a result of projects would be similar to those in the Proposed Action.

4.7.3 Alternative C (No Action)

The impacts to hydrology and water quality would be similar to those described for Alternative A and solutions to resource problems would occur over a longer period of time. The condition of streams would continue to degrade in areas not meeting SRH. With continued degradation of the streams, the stream reaches with poor water quality would have the potential to negatively impact those stream reaches which are currently meeting SRH. Effects from upstream pollutants, excessive sediment, and streambank instability would influence the functionality of a stream. Erosion and stream instability would also contribute to negative upstream impacts.

Under this alternative, the level of prescribed fire may be less and result in more frequent and widespread wildland fires. This scenario has the potential to impact more acreage, causing increases in overland flows, soil erosion, and direct and indirect impacts to water resources and water quality.

Current grazing management has been based upon existing AMPs where riparian objectives were established for only 12 of the 65 pastures defined as riparian following FY1998 assessments. Consequently, the current conditions of riparian habitats, and the hydrologic function of streams and water quality has degraded in many areas accessible to livestock.

4.8 FISHERIES, WILDLIFE, AND SPECIAL STATUS ANIMALS

4.8.1 Fisheries

4.8.1.1 Alternative A (Proposed Action)

Short-term aquatic habitat conditions along all streams would show slight to moderate improvement due to changes in grazing systems and projects that reduced livestock impacts to riparian areas. Early season livestock use and limited hot season grazing would allow riparian vegetation to increase. Most fish habitat improvement would be due to increased riparian vegetation shading along streams and the stabilization of streambanks. Slight water quality improvement would occur as increased upland vegetation and litter reduced silt transport from upland areas. Habitat for hatchery rainbow trout would improve in three reservoirs where Livestock were excluded due to reduced siltation and fecal material, and increased bank vegetation.

Long-term improvements in fish habitat would be moderate, as woody riparian vegetation grew taller and provided more shade than currently exists. Better livestock management in upland habitat would provide additional benefits. Increased herbaceous vegetation and litter would decrease silt input to streams.

4.8.1.2 Alternative B (Suspended Use)

Livestock grazing would be suspended for 3 years in 18 pastures with riparian/aquatic habitat, many of which have fish-bearing streams. Existing riparian shrubs would grow taller and thicker at a faster rate than under the Proposed Action and the additional shade may lower water temperatures somewhat more effectively. Additional root growth from woody and herbaceous

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vegetation would capture more silt and, therefore slightly improve water quality. As Livestock would return to these pastures, the new grazing systems would allow aquatic habitat improvement to occur at a faster pace than the Proposed Action due to the improved health of riparian plants. Some rested pastures without fish habitat are upstream of fish-bearing segments. Resting these upstream pastures would slightly improve upland vegetation, reducing silt delivery to riparian areas, and thereby improving fish habitat downstream. Slight improvement to fish habitat would occur in the short and long-term due to increased growth of upland and riparian vegetation.

Fisheries would be at risk if silt and ash generated by fires in the watershed entered the inhabited streams. There would be a slight increase in the risk of fire due to additional fine fuels accumulating during 3 years of suspended use. However, most rested pastures currently are deficient in grasses and forbs, and the rest period would only raise the fire risk to that of proper functioning pastures. Should a pasture within or upstream of a fish bearing segment burn, there would be a short-term decline in fish habitat conditions due to silt and ash entering the system.

Long-term fish habitat conditions would improve faster due to a faster rate of improvement in riparian vegetation in the 18 rested pastures. Slightly improved conditions would occur in stream segments downstream of rested pastures due to better functioning conditions upstream. Additional fish habitat improvement would occur due to secondary improvements in upland habitat as additional accumulation of grasses and forbs reduced erosion. This additional accumulation of grasses and forbs could also lead to an increase in the incidence of fire decreasing juniper dominance. The eventual regrowth of grasses and forbs following these fires could reduce soil erosion into streams and improve the habitat quality for fish.

4.8.1.3 Alternative C (No Action)

Fisheries habitat would slightly improve in those stream segments currently at proper functioning condition or in upward trend. Current riparian conditions are not satisfactory, and trends are not upward in at least one stream segment composed of 33 pastures. Unsatisfactory fish habitat conditions would persist in these stream segments in the short and long-term.

4.8.2 Wildlife

4.8.2.1 Alternative A (Proposed Action)

Effects to wildlife habitat would occur from changes in grazing seasons of use, projects and secondary factors resulting in changes in vegetation. Because of different habitat needs of various wildlife species, proposed management actions and projects would benefit some species, and be neutral or detrimental to others. Important wildlife habitats were identified in the LAMP and included lower elevation winter habitat critical for mule deer and pronghorn, sagebrush-steppe and aspen/juniper woodlands used by breeding neotropical migratory birds, and riparian areas

Proposed grazing systems would slightly improving habitat conditions in the short-term by increasing annual grasses and forb understory in pastures important to wintering big game species. Little long-term improvement would occur in these annual rangelands from livestock management practices. Changes in grazing seasons would occur in several pastures where mountain shrub communities were impacted by livestock. Reduced grazing pressure during critical seasons would allow increased plant growth and seedling survival, benefitting most wildlife species. Improved livestock management in riparian areas would result in moderate wildlife habitat improvement in the short- and long-terms due to increased woody vegetation and longer availability of surface water in some drainages.

Proposed projects in 13 pastures designed to rehabilitate portions of old crested wheatgrass seedings and annual-dominated rangelands would moderately improve herbaceous understory while leaving sufficient sagebrush for wildlife. Proposed fencing would not affect wildlife habitat since Bureau fencing standards would be followed. Other construction projects would have little effect on wildlife habitat at the time of construction. Where new water projects concentrate livestock in areas not previously grazed, a moderate loss of habitat for song birds and some small mammals would occur. Mule deer and pronghorn would be able to travel through impacted areas and would slightly benefit for additional water sources.

Proposed projects designed to burn aspen or juniper communities in four pastures would decrease habitat needed by mule deer, elk and several songbird species for several years due to the loss of structure and cover. Within the short-term there would be recovery of the understory sufficient to provide habitat for several wildlife species adapted to grassland habitat, and increased forage preferred by elk, mule deer, and pronghorn. Different wildlife species would begin using burned areas as shrubs invaded in the mid- to long-term. Over the long-term, prescribed fires would improve wildlife habitat by providing a mosaic of habitat conditions for a diversity of species.

4.8.2.2 Alternative B (Suspended Use)

Livestock would be removed from12 pastures deficient in grasses or forbs used by wintering pronghorn and mule deer and breeding neotropical migratory birds. Slight to moderate short-term improvement in habitat would occur as the vigor of established plants and seed production increased. Better nutrition and additional hiding cover would slightly increase reproductive success of most wildlife species. Increased seedlings establishment would result in slight, long-term habitat improvements that would be perpetuated by new grazing systems.

Livestock use would be suspended in 18 pastures with riparian vegetation. The faster growth of woody vegetation, more residual cover and reduced disturbance would increase big game and songbird use of this community in the short-term. Slight improvement would continue into the long-term. In two pastures with poor quality bitterbrush or other mountain shrub communities, suspended livestock grazing would increase plant vigor and establishment of seedlings. In the long-term, the faster initial recovery rate would be perpetuated by improved grazing schedules in subsequent years. In two other rested pastures, the aspen community currently affected by livestock would not improve due to a high elk population. Elk would likely increase their aspen consumption proportionate to the reduction in livestock use during the 3 years of non-use.

A slight increase in wildfire potential would occur due to the increased amount of fine fuel in all 24 rested pastures. However, the risk of fire would be similar to that of pastures currently meeting grazing standards. Fires in the eight pastures with juniper would decrease the habitat for songbirds species requiring more structure while improving conditions for those preferring

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grasslands. In the long-term, sagebrush would reestablish in burned areas and provide additional habitat for other songbird species. Removing juniper vegetation in burned areas would eliminate some hiding and thermal cover for deer and elk in the short-term, but would greatly improve forage conditions within two growing seasons. Localized, short and long-term habitat improvement is expected from 3 years of livestock suspension in eight pastures with juniper.

Reduced disturbance to wildlife from livestock and ranch management activities would occur in all 24 rested pastures. This would result in a slight increase in reproductive success of songbirds due to reduced trampling, and the increased residual cover would reduce predation. Other effects from the grazing systems established following livestock suspension and the completion of proposed projects would be similar to those in the Proposed Action in the short and long-term.

4.8.2.3 Alternative C (No Action)

Continuation of current management strategies would allow unacceptable habitat conditions to be perpetuated in 57 pastures in I and M allotments not meeting the minimum standards necessary for healthy fisheries, wildlife and native plant species (see Appendix C of the LAMP). Currently only 15 pastures have wildlife objectives identified in AMPs. Unsatisfactory conditions in 13 low elevation pastures with decadent crested wheatgrass seedings or locked-in annual rangeland important to wintering big game would be perpetuated. Mountain shrub communities important to wildlife would remain in unsatisfactory condition where the cause was the current grazing season of use. Riparian areas currently not properly functioning or in upward trend would not provide potential habitat for wildlife. Juniper coverage in pastures with proposed prescribed fires would not be burned allowing young junipers to encroach into sagebrush, aspen and riparian communities, adversely affecting wildlife species intolerant of increased structure.

4.8.3 Special Status Animals

4.8.3.1 Alternative A (Proposed Action)

Special status species include riparian/aquatic (Northern bald eagle, Columbia spotted frog, and redband trout) and upland (Western sage grouse and Northern goshawk) species. Effects on special status wildlife and fish dependent on riparian/aquatic habitat would be similar to the effects on fisheries and wildlife in both the short- and long-term. The proposed grazing systems and projects would improve riparian and upland vegetation, increasing the quality of water running off the watershed and stability of stream flows. Improved water quality and quantities would provide slight to moderate improvements in habitat for spotted frogs, redband trout and bald eagles in the short-term and moderate improvement in the long-term.

Sage grouse on leks would benefit moderately where Livestock are not allowed in pastures until after the courtship period. Sage grouse nesting habitat would benefit moderately by the new grazing systems that maintained 7-9 inches of herbaceous cover within 2 miles of leks. Proposed prescribed fires would remove encroaching juniper trees from nesting and brood rearing habitat in three treated pastures providing slight short-term and moderate long-term benefits within these pastures. Slight to no adverse impacts would occur to sage grouse winter habitat where sagebrush was killed in old seedings or where annual rangeland was reseeded. These projects would affect only a small percentage of available sagebrush habitat.

4.8.3.2 Alternative B (Suspended Use)

Effects of Alternative B upon habitat important to upland and riparian special status species generally would be similar to other wildlife. A partial exception would be effects on sage grouse. Three years of non-use in 6 rested pastures within 2 miles of sage grouse leks would rapidly increase the vigor of existing grasses and forbs improving the protection of grouse nests from predation. In 3 pastures with proposed prescribed fire projects and 3 other pastures without proposed burning the 3 years of non-use would increase the fire potential. Fires in these six pastures would reduce juniper encroachment and provide slight to moderate habitat improvement for sage grouse. Improved habitat conditions for Western sage grouse would increase reproductive success and slightly reduce the need for listing this species under the Endangered Species Act (ESA).

4.8.3.3 Alternative C (No Action)

Implementation of the No Action Alternative would maintain current habitat conditions for special status species. Species dependent on riparian and aquatic habitats would continue to benefit from improvements in the 12 pastures with riparian objectives and in the other pastures with riparian vegetation in functioning condition or in upward trend. Riparian areas in unsatisfactory condition or in a downward trend would continue to not meet special status species needs. Sage grouse nesting and brood rearing habitat would continue to deteriorate in all pastures with juniper. Grazing systems in pastures with sage grouse leks impacted by early spring grazing and nesting habitat with insufficient heroaceous understory would continue to negatively impact grouse habitat.

4.9 RANGELAND/GRAZING USE

4.9.1 Alternative A (Proposed Action)

The Proposed Action recommends changes to existing grazing schedules which would be implemented beginning in FY2000. This program would continue to provide for a sustained level of livestock grazing consistent with other resource objectives and public land use allocations. These grazing schedules, which incorporate season-of-use modifications, utilization levels, duration of use, and distribution, all address specific resource concerns, including on-going recreation activities, special management areas, and access. The focus of the grazing program would be to improve or maintain resource conditions related to watershed functions in the uplands and riparian areas, ecological processes, and for native, threatened and endangered, and locally important species.

There would be no immediate reductions in active grazing use, although more stringent utilization limits may in some cases require early removal of livestock from public rangelands. There would be short-term negative impacts to some permittees from implementing prescribed fire which requires, at a minimum, two growing seasons of rest to ensure vegetation recovery. In the long-term, permittees would benefit due to increased and improved forage conditions.

Permittees would see slight increases in operation and labor costs due to the increased herding requirements under the Proposed Action.

4.9.2 Alternative B (Suspended Use)

Under this alternative, grazing use would decrease by 17,598 AUMs representing 45 percent of the landscape area. Loss of AUMs are shown by allotment in Table 1. It is expected that some current grazing operations would not be viable under this alternative. Impacts to operators would depend on the rate of recovery of the vegetation communities within the pasture(s) as they relate to meeting SRH or LAMP objectives and the amount of suspended AUMs. Short-term and long-term impacts due to wildland and prescribed fire would be similar to the Proposed Action, but would slightly increase due to the expected increase in number and size of wildfire.

4.9.3 Alternative C (No Action)

There would be no immediate impact to permittees in the short-term. In the long-term, adjustments would be made to individual permits and grazing schedules in order to meet resource objectives and SRH. These adjustments could include reductions in active AUMs or changes in season of use. Prescribed fire may not be as aggressive as under the Proposed Action and permittees may not experience as many short-term suspensions of grazing use in burned areas. Although short-term direct impacts to continuous livestock grazing may be minimal, long-term impacts would be realized due to continued declines in forage conditions.

4.10 RECREATION AND VISUAL RESOURCES

4.10.1 Alternative A (Proposed Action)

The development of 19 miles of livestock fences would have an insignificant impact on dispersed recreation activities such as hunting, hiking and wildlife observation. The additional fence placement in areas open to off-highway vehicle use would result in an insignificant hindrance to recreation use.

Various prescribed burns or other vegetation manipulation projects would cause short-term site-specific decreases in certain dispersed recreation activities such as big game hunting. With prescribed burns occurring throughout much of the life of the plan, such site-specific impacts would be long-term, but with individual burn sites affected only short-term. Improved riparian and upland native habitats, and increased wildlife forage would slightly enhance hunting and wildlife viewing opportunities in the long-term. The loss of habitat biodiversity caused by newly established seedings would create site-specific short- and long-term adverse impacts on some wildlife viewing and hunting opportunities, but would be insignificant within the landscape area as a whole. The limited number of management actions improving aspen health and recovery would result in a long-term degradation in the level of quality recreation experiences for some activities (e.g., hunting, wildlife viewing, and dispersed camping) which rely on such settings.

Most management actions would meet visual resource management (VRM) objectives within either VRM III or IV classified areas. Cumulatively, construction of new rangeland facilities would result in relatively small visual changes to the landscape.

Fire blackened areas would have a short-term, temporary adverse visual impact to affected settings until desired vegetation is re-established. New areas of crested wheatgrass seedings and brush beating actions would meet only VRM class IV management objectives. Tree stumps remaining from juniper cutting would create a long-term change in visual setting, yet meet VRM Class IV objectives. Juniper stumps would meet VRM Class III objectives where juniper cutting or other woody vegetation projects are kept small in size, dead vegetation is substantially eliminated on-site, where projects are spatially separated from each other, and located in a mosaic pattern in relation to topography and other natural features. Visual quality would be enhanced by other actions which improve natural resource and habitat conditions.

4.10.2 Alternative B (Suspended Use)

Impacts to dispersed recreation use opportunities would be similar to the Proposed Action. In pastures where livestock use is suspended, the quality of a recreation experience would be enhanced for recreationists who prefer to avoid livestock. Within riparian areas and aspen groves with suspended livestock use, certain recreation opportunities (e.g., hunting, wildlife viewing, and camping) would be enhanced at a faster rate.

Impacts to visual resources would be as described under the Proposed Action. Additionally, suspended livestock use would allow for accelerated enhancement of scenic quality in affected areas; particularly within riparian corridors and aspen groves. Overall, visual enhancements within the landscape area would occur at a more accelerated rate under this alternative.

4.10.3 Alternative C (No Use)

Dispersed recreation uses and opportunities would remain available, but limited compared to Alternatives A and B. Under this alternative, enhancement of recreation uses and opportunities would take the greatest period of time, if accomplished at all. Where livestock uses are presently adversely affecting recreation, improvement would be delayed until individual allotment management plans are updated. Any enhancement of recreation opportunities would occur in a more sporadic manner than under Alternatives A and B with no continuity or connectiveness within the landscape area. Wherever dispersed recreation-dependent resource conditions deteriorated, there would be a gradual short- to mid- term decline in the quality of dispersed recreation uses and opportunities.

Under this alternative, the enhancement of visual quality would occur the slowest rate compared to Alternatives A and B. Improvement of visual quality at visually sensitive locations, such as riparian areas, would occur sporadically and would take longer. The extent of vegetative manipulation and prescribed fire would be the least under this alternative, with associated visual impacts from these actions being less evident through time.

4.11 SPECIAL MANAGEMENT AREAS - WILDERNESS STUDY AREAS, ACEC/RNAS, WILD AND SCENIC RIVERS

4.11.1 Alternative A (Proposed Action)

The Proposed Action is not expected to have any additional impacts to the Beaver Dam Creek WSA or the two proposed ACEC/RNAs beyond those under current management strategies. If the WSA is designated, the primary and secondary wilderness values would be preserved and protected (see Section VI of the LAMP). Currently, four grazing allotments lie within the WSA; livestock grazing would be allowed to continue. Maintenance of existing rangeland improvement projects would still occur. At this time, two additional fences have been proposed within the WSA. The Proposed Action would continue to improve habitat conditions for wildlife species.

No impacts would be anticipated to two ACEC/RNAs proposed for designation in the Draft SEORMP. Proposed projects in the area would be evaluated for impacts to relevant and important values and would be permitted where those values would be maintained or enhanced. The grazing system proposed for these pastures would continue to maintain the excellent vegetative conditions found in the area.

4.11.2 Alternative B (Suspended Use)

For the Beaver Dam WSA and South Fork Indian Creek study stream, the impacts and management requirements would be the same as described under Alternative A (Proposed Action). The analysis of the two ACEC/RNAs proposed for designation in the Draft SEORMP would also be the same as Alternative A (Proposed Action). No reduction in grazing use for 3 years would occur in these pastures because both pastures met standards for rangeland health.

4.11.3 Alternative C (No Action)

For the Beaver Dam WSA and South Fork Indian Creek study stream, the impacts and management requirements would be the same as described under the Proposed Action. The analysis of the two ACEC/RNAs proposed for designation in the Draft SEORMP would also be the same as Alternative A (Proposed Action).

4.12 SOCIO-ECONOMIC VALUES

4.12.1 Alternative A (Proposed Action)

Under the Proposed Action, there would be little to no expected change in the socio-economic values within the landscape area. All land use activities would occur as in the past. The major impact of this alternative would be changes in grazing schedules in pastures where grazing was determined to be the primary cause for not meeting SRH or other resources values of concern. This alternative could result in small decreases in local economic activity, employment, and income generated by BLM managed resources. Minor impacts of short-term duration may affect recreational activities, wildlife and livestock grazing operations during periods of prescribed burns, or rangeland rehabilitation projects. This alternative is not expected to adversely impact recreational activities or visual resource values.

4.12.2 Alternative B (Suspended Use)

Under this alternative, the expected economic impact would be substantial to those permittees affected by the suspension of use in all pastures where SRH were not being met, and current livestock grazing was determined to be the primary cause. Livestock operators would be required to run fewer numbers on public land or to move livestock to other pastures or private land once utilization levels or the pasture objectives have been met. The suspension of use would affect 45 percent of the landscape area and 12 operators. The resumption of livestock grazing in those pastures would only be permitted where there was a reasonable expectation that grazing could occur without setbacks to the recovery of the ecosystem.

Under this alternative, some livestock operators could go out of business. Recreational use may increase in those pastures where livestock grazing has been removed, and the habitat improves the hunting, fishing and other recreational opportunities. Visual resource values are also expected to improve in areas where habitat conditions are currently not functioning properly.

Where prescribed burns have been proposed, the short-term impacts to visual resources due to the blackened nature of the landscape would be minimal. Prescribed fire would be conducted to minimize the impacts to all resources in both the short- and long-term, and appropriate mitigation measures would be taken to protect resources while achieving the desired goals and objectives of the burn.

4.12.3 Alternative C (No Action)

Under this alternative, there would be little to no change in the socio-economic values within the landscape area. Long-term impacts to the livestock industry would occur as a result of the steady downward trend of upland and riparian vegetation. Also, increasing juniper may result in forage losses for livestock and a possible reduction in livestock numbers and grazing duration. This habitat decline would also have a negative effect on the recreational and visual resource values of the area. The impacts from prescribed burns would be the same as Alternative A.

4.13 CULTURAL RESOURCES

4.13.1 Alternative A (Proposed Action)

Rock art, rock shelters and structures, habitation sites around springs, small camps at stream-side meadows and on alluvial deposits, quarries, transportation corridors, and the remains of homesteads, stage and telegraph stations comprise the types of pre-historic and historic cultural sites found scattered across the landscape area.

The management proposed for riparian areas to improve water quality and aquatic habitat while reducing soil erosion would benefit cultural resources. Establishing riparian buffer zones and restricting livestock grazing along streams would also maintain cultural site conditions. Livestock congregation and trampling around streambanks and springs has the potential to adversely impact cultural resources; however, the Proposed Action addresses this concern by improved grazing systems, changes in livestock distribution by constructing pasture division fences combined with riding, and in spring protection and building alternate water sources.

Prescribed burns and wildland fires of low intensity would have little to no effect on prehistoric lithic scatter sites, unless heavy equipment is used to blade fire lines. Conversely, high intensity fires can adversely effect these sites when extreme heat damages toolstone and debitage as well as historic buildings that might be present.

Cultural Resource surveys would be conducted to locate any unknown resources, and potential impacts would be mitigated by avoidance, prior to surface disturbance.

4.13.2 Alternative B (Suspended Use)

The impacts from this alternative and mitigation measures are expected to be similar as for the Proposed Action. There may be a temporary reduction in impacts to cultural resources from livestock grazing and congregation in those areas where use is suspended. There would be less impacts to cultural resources because of the increased vegetation growth and cover, which would decrease the visibility of prehistoric and historic sites. Increasing vegetation cover would also benefit cultural resources by decreasing the effects of soil and wind erosion and other site deformation processes.

Prescribed burns and wildland fires of low intensity would have little to no effect on prehistoric lithic scatter sites, unless heavy equipment is used to blade fire lines. Conversely, high intensity fires can adversely effect these sites when extreme heat damages toolstone and debitage as well as historic buildings that might be present.

As with the Proposed Action, prior to project construction, surveys for cultural resources would be conducted to locate any unknown resources and potential impacts would be mitigated for by avoidance.

4.13.3 Alternative C (No Action)

The impacts to cultural resources under this alternative would continue as at present. As with the Proposed Action, prior to project construction, surveys for cultural resources would be conducted to locate any unknown resources and potential impacts would be mitigated for by avoidance.

4.14 PALEONTOLOGY

4.14.1 Alternative A (Proposed Action)

No systematic paleontological inventories have been conducted within the Bully Creek Landscape Area for fossil flora and fauna. Prior to any project construction, surveys for fossil resources would be conducted to locate any unknown resources and potential impacts would be mitigated for.

4.14.2 Alternative B (Suspended Use)

Same as Alternative A (Proposed Action).

4.14.3 Alternative C (No Action)

Same as Alternative A (Proposed Action).

4.15 ACCESS

4.15.1 Alternative A (Proposed Action)

The acquisition of non-exclusive easements for those portions of 553, Gregory, Pole Creek and

Spring Roads which have been identified, would afford BLM and its licensees and permittees access to the public land served by these roads. This would ensure adequate administrative access for the effective administration of the land.

The acquisition of exclusive easements on these road segments would allow the public to use them. However, the public may not be able to legally reach these segments because BLM holds only non-exclusive easements on portions of roads in the LAMP area.

If one or more of these roads is claimed as a public road by Malheur County through the assertion of rights under Revised Statute 2477, or by some other means, full and free access would be enjoyed by members of the public. BLM has no control over the County's decision to make claims as to the public nature of roads within its boundaries. However, the likelihood of the occurrence of such claims should be a factor in BLM's decision as to whether to acquire a particular access easement.

4.15.2 Alternative B (Suspended Use)

Same as Alternative A (Proposed Action).

4.15.3 Alternative C (No Action)

Same as Alternative A (Proposed Action).

4.16 CUMULATIVE IMPACTS

4.16.1 Alternative A (Proposed Action)

During data analysis for the landscape area, the effects of historic and current uses were assessed and taken into consideration in developing management recommendations which would lead to reasonable time frames for habitat improvements. The management prescriptions for the LAMP are consistent with the intent and direction described in the Draft SEORMP/EIS, which is designed to enhance natural values and preserve options for future management.

The Proposed Action forecasts the need to engage various activities during implementation of the LAMP. Because the exact location, timing and duration of future (beyond FY1999) activities is unknown at this time, the need to implement any activities would be assessed to ensure they are within the scope of the LAMP, and do not exceed thresholds (cumulative impacts) for disturbances as described in the Draft SEORMP/EIS (USDI/BLM 1998b). Activities would be prioritized based on the analysis completed for the Subbasin Review (USDI/BLM 1998a), as amended (considering current data and management direction). This would be done through the Administrative Determination process, which evaluates the requirement for additional environmental analysis.

Under the Proposed Action, livestock grazing would continue at current levels; however, grazing schedules, utilization rates, duration of use, and other actions such as riding and fencing to improve livestock distribution would move resources towards meeting the standards for rangeland health and desired range of future conditions. There are no proposals to construct recreation facilities or new roads; it is expected that maintenance of existing projects (reservoirs, cattleguards, fences, water developments, roads, etc.) would continue as in the past without causing any addition impacts to the landscape area. The use of prescribed fire is expected to increase over past and current levels. Future minerals exploration and development is expected to remain unchanged over past and present levels. Wildlife populations are expected to rise over current numbers, corresponding with habitat improvement. The effects of increasing numbers of big game may be positive (in terms of recreation opportunities) and negative (contributing to vegetation, soil, water quality degradation). Recreation activities (hunting, fishing, sightseeing) are expected to increase over past and present levels.

Private land adjoining public land within the landscape area are currently being grazed or are under agricultural production (alfalfa, wheat). Livestock grazing (feeding) occurs on private land during the winter, and permittees rely on public land for forage during the spring, summer and fall. There is no change expected in the future under this alternative. No other developments or uses are anticipated.

4.16.2 Alternative B (Suspended Use)

If livestock use is suspended, this would represent a change in past and present grazing activities within the landscape area. It would be difficult to assess the magnitude of future impacts; with a 41 percent reduction in livestock AUMs occurring in 8 of the 12 I and M allotments, this may have an impact on the local and county economy. Although livestock grazing would be still be permitted in certain pastures, and grazing may be resumed in those suspended from use once resource conditions begin to improve, this may potentially put as many as 12 operators out of business.

Resource conditions are expected to show improvement in the short-term. This would result in an overall improvement of soils, vegetation, water quality, and dependent wildlife species. Increases in wildlife populations may result in more hunting opportunities, and may cause additional pressure on resources (particularly riparian/wetland areas), both from big game and the public.

4.16.3 Alternative C (No Action)

As with the Proposed Action, management prescriptions under this alternative would be consistent with the intent and direction described in the Draft SEORMP/EIS, which is designed to enhance natural values and preserve options for future management. Under current management practices, livestock grazing has been identified as the cause of resource problems in 8 of the 12 I and M allotments (or 45 percent of grazed public land in the landscape area). Although this is an improvement over historic management, implementing changes within these 8 allotments is required by FY2000. The likelihood that those grazing schedules developed for the Proposed Action would be adopted under this alternative is unknown. Those schedules, in part, depended on taking a landscape look at all allotments, including private land. Permittees may or may not be willing to incorporate other options (i.e., grazing private land with public land, running livestock in common with other permittees, using other pastures in different allotments) into their current grazing operations. This alternative keeps alive the piece-meal approach to resource management, and does not adequately address cumulative impacts to all actions.

There are no changes expected for minerals exploration and development, recreation, and access needs. Prescribed fire may not be as aggressive as with the Proposed Action, since burning often takes coordination among adjoining landowners to achieve effective results. Wildlife populations are expected to increase, although big game may not be as wide-spread as under Alternatives A and B. There are no short-term impacts expected to the local economy; long-term impacts may be static or even down due to an inability to coordinate habitat recovery actions across the landscape area.

4.17 UNAVOIDABLE ADVERSE EFFECTS

Unavoidable adverse impacts are those residual impacts that would likely remain after mitigation. The effects from proposed project implementation would be similar for all 3 alternatives since the same projects would be constructed in all 3 alternatives. The time in which the effects would occur is the only difference between the 3 alternatives. If Alternative A were approved, project work could begin as soon as the fall of 1999 and proceed annually based on the availability of funding. Alternative B would evaluate the resource needs after a minimum of 3 years, so proposed project work would not occur until the fall of 2002. Alternative C would implement project work at a slower rate annually and take a longer time to complete the proposed project list. Unavoidable adverse impacts would include:

1) Localized trampling of soil around newly developed water sources.

2) Localized wildlife mortality associated with collisions or entanglement in 19 miles of new fence. Fence construction would follow BLM guidelines designed to facilitate the movement of wildlife through fencing but some mortality would still occur.

3) Erosion from climatic events following planned prescribed burns.

4) Many incised stream reaches currently in nonfunctional condition or functioning at risk with a downward trend would continue to downcut to a hard layer as a result of the continuation of hydrologic processes, regardless of the alternative selected. Correspondingly, those upland and riparian pastures that are currently nonfunctional with a downward trend risk passing the threshold where they can no longer be returned to a productive state.

4.18 RELATIONSHIP OF SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

The balance (trade-offs) between short-term uses and long term productivity is discussed below for each Alternative.

4.18.1 Alternative A (Proposed Action)

The dominant land use throughout the landscape area is livestock grazing, which occurs on all but 2,200 of the 269,000-acre public land base. The recommendations and monitoring as described in the LAMP are designed to achieve the identified goals and objectives to improve or maintain ecosystem function, ensuring the landscape area moves towards the desired range of future conditions. Implementing the LAMP would also comply with SRH requirements.

In the short-term (within 10 years), the proposed action would generally reduce dominance by woody species and increase mosaics of diverse structures of multiple-aged shrubs, forbs, and perennial grasses in the upland communities with the use of prescribed fire. In riparian areas, the dominance of woody species would be increased creating a diverse structures of multiple-aged shrubs, forbs, and perennial grasses. This would result in greater productivity, and improved natural functions and watershed stability in both vegetation communities. Shrub reintroduction into burned sites would maintain diversity at a moderate scale, especially within habitat of sagebrush-dependent wildlife species. The objectives of maintaining or improving ecosystem function so that resource values would move towards DRFC would continue at a slower rate than Alternatives B but faster than Alternative C.

In the long-term (20 years plus), vigor and health of vegetation communities, which includes maintenance of soil stability and energy, nutrient, and water cycling, would be improved across the landscape. Water quality, vegetation, soils and dependent fish and wildlife species would all benefit from the proposed action.

4.18.2 Alternative B (Suspended Use)

Under this alternative, the expected economic impact would be substantial to those 12 permittees affected by the suspension of use in 24 pastures where SRH were not being met, and current livestock grazing was determined to be the primary cause. Livestock operators would be required to run fewer numbers on public land or to move livestock to other pastures or private land once utilization levels or the pasture objectives have been met. The suspension of use would affect 45 percent of the landscape area (266,579 acres) and 41 percent (120,371) of the AUMs available to be leased. Some of the 12 livestock operators could go out of business. Concentrating livestock on private lands could heighten the impact to resources, including riparian resources, which in turn would affect adjoining land. The resumption of livestock grazing in those pastures would only be permitted where there was a reasonable expectation that grazing could occur without setbacks to the recovery of the ecosystem. Proposed grazing schedules developed for Alternative A would likely be used with this Alternative.

In the short-term (within 10 years), Alternative B would have the same positive impacts to the vegetation communities as Alternative A but occur at a faster rate. In the upland communities, there would generally be a reduction in the dominance of woody species and increase mosaics of diverse structures of multiple-aged shrubs, forbs, and perennial grasses with the increased use of prescribed fire. In riparian areas, the dominance of woody species would be increased creating a diverse structures of multiple-aged shrubs, forbs, and perennial grasses. This would result in greater productivity, and improved natural functions and watershed stability in both vegetation communities. Shrub reintroduction into burned sites would maintain diversity at a moderate scale, especially within habitat of sagebrush-dependent wildlife species. The objectives of maintaining or improving ecosystem function so that resource values would move towards DRFC would continue at the fastest rate of the 3 Alternatives.

Recreational use may increase in those pastures where livestock grazing has been removed and the habitat improves for hunting, fishing and other recreational opportunities. Visual resource values are also expected to improve in areas where habitat conditions are currently not functioning properly. Where prescribed burns have been proposed, the short-term impacts to visual resources due to the blackened nature of the landscape would be minimal. Prescribed fire would be conducted to minimize the impacts to all resources in both the short- and long-term, and appropriate mitigation measures would be taken to protect resources while achieving the desired goals and objectives of the burn.

In the long-term (20 years plus), vigor and health of vegetation communities, which includes maintenance of soil stability and energy, nutrient, and water cycling, would be improved across the landscape. Water quality, vegetation, soils and dependent fish and wildlife species would all benefit from Alternative B.

4.18.3 Alternative C (No Action)

Short-term (within 10 years) use of the area would continue with current activities such as grazing, recreation, and wildlife proceeding at present levels. Revisions of 8 allotment grazing schedules by the end of FY2000 would be required to comply with SRH. Proposed grazing schedules developed for Alternative A would likely be used with this Alternative. The objectives of maintaining or improving ecosystem function so that resource values would move towards DRFC would continue at a slower rate than Alternatives A and B.

Long-term (20 years) vigor and health of vegetation communities, which includes maintenance of soil stability and energy, nutrient, and water cycling, would still be the goal across the landscape. The rate at which this might be achieved is the slowest of the 3 alternatives.

4.19 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Irreversible commitments of resources are those that cannot be reversed, except perhaps in the extreme long-term. Many incised stream reaches currently in nonfunctional condition or functioning at risk with a downward trend would continue to downcut to a hard layer as a result of the continuation of hydro- logic processes, regardless of the alternative selected. This would be an irreversible loss of soils in those incised stream stretches. Correspondingly, those upland and riparian pastures that are currently non- functional with a downward trend risk passing the threshold where they can no longer be returned to a productive state. The rate of recovery for these vegetation communities would be the fastest under Alternative B (Suspended Use) followed by Alternative A (Proposed Action) and Alternative C (No Action).

All three alternatives would require that a cultural clearance be completed prior to project implementation. The possibility still remains that cultural resources could be damaged or destroyed during project implementation which would be an irreversible loss of the resource.

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There were no other irreversible commitments of resources identified with any of the 3 alternatives.

Irretrievable commitments of resources are those that are lost for a period of time. In analyzing the 3 Alternatives, all would have irretrievable commitments of resources. The gap between those pastures in poor condition not meeting one or more of the 5 SRH and their potential productivity is an ongoing irretrievable loss. Alternative C (No Action) would have the greater likelihood of irretrievable commitment of resources due to the longer timeframe involved with implementing the changes needed to improve resource values.

4.20 SUMMARY OF ENVIRONMENTAL EFFECTS

A summary of environmental effects is contained in Appendix 1 of this document.

5. List of Preparers

Bob Alward - Recreation, Wild and Scenic Rivers, Wilderness Study Areas
Al Bammann - Wildlife, T and E Animals, Vegetation
Cynthia Tait - Fisheries, T and E Animals
Jean Findley - Botany, Vegetation, T and E Plants, ACECs/RNAs
Lynne Silva - Weeds
Shaney Rockefeller - Hydrology, Soils, Riparian/Wetland Areas, editor
Ron Rembowski - Range Management
Steve Christensen - Range Management, Vegetation
Randy Eyre - Range Management, Vegetation
Kahne Jensen - Range Management, Socio-economic, editor
Jon Freeman - Lands, Realty
Bill Holsheimer - Geology, Minerals
Diane Pritchard - Cultural Resource Management, socio-economic, editor
Tom Dabbs- Editor
Barb Masinton - Team Leader

6. List of Agencies and Persons Consulted

Public involvement was an ongoing process which occurred prior to and during LAMP development. During scheduled public scoping meetings, public informational meetings, and during public review of the Draft LAMP, the public was provided a platform to address their concerns and comments on resource issues, management objectives and recommendations.

Responsible participants and their level of involvement in this LAMP was determined by land ownership and the position and pattern of property within the landscape area. More than 120 individuals were involved with the development of the LAMP. Alist of participants is on file at the BLM Vale District Office. This included:

- Malheur County Soil and Water Conservation District

- Malheur-Owyhee Watershed Council, Bully Creek Watershed Coalition
- Oregon Department of Fish and Wildlife
- Natural Resources Conservation Service (NRCS)
- Environmental organizations
- Livestock operators and other willing private landowners having interests within this landscape area.

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APPENDIX 1 - SUMMARY OF IMPACTS BY ALTERNATIVE BY RESOURCE VALUE

	ALTERNATIVE A - PROPOSED ACTION	ALTERNATIVE B - SUSPENDED USE	ALTERNATIVE C - NO ACTION
Air Resources	Meets Class II Airshed Standards.	Same as Alternative A except: - Direct and indirect impacts to the air resources from project implementation would be slightly less than Alternative A due to less prescribed burning.	Same as Alternative B.
Geology , Energy, and Mineral Resources	No impacts.	Same as Alternative A.	Same as Alternative A.
Soils	Of the total 109 pastures in the landscape area: - 89 pastures are meeting Standard 1 of SRH and would move towards DRFC - 20 pastures where soils are preventing the attainment of Standard 1 would progress towards meeting Standard 1 of SRH and DRFC	Same as Alternative A.	Of the total 109 pastures in the landscape area: - 89 pastures currently meeting Standard 1 of SRH would remain as they are - 20 pastures in a degraded condition would remain as they are -Long term increase in erosion rates from lack of fire in juniper vegetation

	ALTERNATIVE A - PROPOSED ACTION	ALTERNATIVE B - SUSPENDED USE	ALTERNATIVE C - NO ACTION
Vegetation Uplands	- 22 of the total 36 upland trend studies moving towards current upland objectives would continue over the short term (10 years). - Herbaceous species composition increases - Plant vigor, seed production, seedling establishment, root production and liter accumulation promoted - Forage production increases - Sagebrush and juniper cover decreases slightly - Trampling of vegetation next to fences and water developments - Increased use of vegetation on private land	Same as Alternative A except - Improvement to vegetation community increases at a faster rate - 14 of the total 36 upland trend studies not meeting objectives would be expected to move towards meeting objectives in 3 years. - Large increase of upland vegetation use on private land due to the 17,598 AUM reduction on BLM managed land in first 3 years	- 22 of the total 36 upland trend studies meeting objectives would remain as they are - Degraded conditions in 14 of the total 36 upland trend study areas would continue - Grazing schedules would need to be developed on the pastures where the 14 upland studies showing degraded conditions are located with recommendations to improve.
Riparian	- 48 miles of riparian vegetation in PFC would remain in PFC - 49 miles of riparian vegetation FAR with an upward trend would continue to improve - Portions of 57 miles of riparian vegetation FAR with trend not apparent would improve - 35 miles of riparian vegetation FARD would improve. - 21 miles of stream that are NF where livestock use has been identified as a factor limiting attainment of PFC would improve. In some areas recovery may require a longer time frame but recovery would occur. - 47 of the 56 pastures identified as having riparian resources are currently not meeting Standard 2 of SRH. 18 are caused by current grazing management practices and would move towards meeting standards in the short-term.	Same as Alternative A except: - Portions of 57 miles of streams currently FAR with an unapparent trend, 35 miles FARD and 21 miles of stream that are NF where livestock use has been identified as a factor limiting attainment of PFC would have a greater short-term rate of recovery than Alternative A and C. - The 18 riparian pastures in which SRH Standard 2 was not met due to grazing management practices would have a faster rate of recovery than Alternatives A and C.	Same as Alternative A except: - 48 miles of riparian vegetation in PFC, 49 miles of riparian vegetation FAR with an upward trend, portions of 57 miles of riparian vegetation FAR with trend not apparent would continue as assessed. - 35 miles FARD and 21 miles of stream that are NF where livestock use has been identified as a factor limiting attainment of PFC would also continue as assessed. In some areas recovery may require a longer time frame but recovery would occur. -- The 18 riparian pastures in which SRH Standard 2 was not met due to grazing management practices would continue to FAR or become NF
Special Status Plants	No impacts.	Same as Alternative A.	Same as Alternative A.

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	ALTERNATIVE A - PROPOSED ACTION	ALTERNATIVE B - SUSPENDED USE	ALTERNATIVE C - NO ACTION
Aspen - 20 pastures containing aspen	- *Proposed* 3200-acre prescribed fire in Willow Basin and Bully Creek pastures of the Willow Basin allotment would benefit aspen regeneration - Remaining 18 pastures that have an aspen vegetation community would continue to decline but beneficial projects to improve them would be initiated in later years of implementation.	Same as Alternative A except: -Of the 24 pastures not meeting SRH caused by livestock grazing practices, 10 contain aspen vegetation. Cattle would be excluded for a minimum of 3 years from these 10 pastures resulting in moderate aspen regeneration in the short-term. - In 10 aspen pastures not deferred from livestock grazing the health of aspen would continue to decline until projects could be implemented to improve them	Same as Alternative A except rate of implementing new projects to improve aspen stands would be much slower.
Weeds	- Proliferation of weeds controlled on an annual basis which is expected to slow the spread of established stands and reduce the establishment of new infestations.	Same as Alternative A except: - In areas where perennial grasses and shrubs can respond from no grazing for a minimum of 3 years, competition from the perennials may retard the establishment of new infestations faster than Alternative A.	Same as Alternative A.
Fire History and Management	- Prescribed fire would be conducted in the landscape area where vegetation communities are not meeting resource objectives for diversity, composition, structure, and wildlife habitat needs. - The number of large wildfires and acres burned may be slightly reduced with prescribed fires reducing the amount of burnable fine fuels needed to carry larger fires.	- The number of large wildfires and acres burned is expected to increase with the increase of the amount of fine fuels present as a result of no grazing on 45 percent of the landscape area (120,371 acres). Refer to Table 1.	- The Rail Canyon prescribed fire begun in 1999 would be completed in the next 1-2 years. Additional prescribed fires have not been identified although this still remains an option.

	ALTERNATIVE A - PROPOSED ACTION	ALTERNATIVE B - SUSPENDED USE	ALTERNATIVE C - NO ACTION
Hydrology and Water Quality	- Water quality would be improved with increased vegetation and soil stability. - Water temperatures would lower with increased riparian vegetation shading. - Streambanks would begin to stabilize and there would be an increased filtering of sediments as early season grazing schedules are implemented which promotes regrowth of riparian vegetation after livestock leave the area. - Development of riparian pastures would help to reduce coliform counts and erosion from hoof action. - Major roads crossing streams that are not hardened would continue to cause localized disturbances and downstream sediment flow.	Same as Alternative A except: -The rate of improvement would be accelerated with the suspension of livestock use for a minimum of 3 years.	Same as Alternative A except: - Solutions to resource problems may not consider the entire landscape area and may occur later in time. - The conditions of streams would continue to degrade in areas not meeting Standards which could impact downstream areas. -The level of prescribed fire may be less under this alternative which could result in more frequent and widespread , wildland fires. This scenario could result in increased soil erosion with negative impacts to hydrology and water quality. - 8 of 12 I and M allotments would require AMP revisions to be in compliance with SRH prior to March 1, 2000.
Fisheries	-Fish habitat (improved water quality and lowered temperatures) would improve on all streams from increased riparian vegetation shading along streams and stabilization of streambanks. - 3 reservoirs where cattle would be excluded would have improved habitat for hatchery rainbow trout due to reduced siltation and fecal material and increased bank vegetation.	Same as Alternative A except: - The rate of change would be faster than Alternatives A and C. - Fish habitat conditions would decline over the short term from the expected increase in the number of large wildfires and acres burned. This is anticipated as a result of the increase in the amount of fine fuels present as a result of no grazing on 45 percent of the landscape area (120,371 acres).	- Fish habitat would slightly improve in 40 miles of the streams in PFC. - unsatisfactory fish habitat conditions would persist in at least one stream segment comprised of 33 pastures

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	ALTERNATIVE A - PROPOSED ACTION	ALTERNATIVE B - SUSPENDED USE	ALTERNATIVE C - NO ACTION
Wildlife -mule deer and pronghorn critical winter habitat	- Eight of 32 pastures not meeting SRH Standard 5 due to current grazing management practices would move towards meeting the Standard in the short-term (10 years). - Short-term improvement in habitat conditions with improved grass and forb understory. - Changes in grazing seasons in mountain shrub communities would promote plant growth and seedling survival.	- Eight of 32 pastures not meeting SRH Standard 5 due to the current grazing management practices would move towards meeting the Standard within 3 years. - Slight to moderate short term improvement in winter mule deer and pronghorn habitat would occur with the removal of livestock in 12 pastures deficient in grass or forbs. The vigor of established plants and seed production would be expected to increase improving habitat	- Eight of 32 pastures not meeting SRH Standard 5 due to current grazing management practices would remain as they are. - Continuation of current management would leave 57 pastures in I and M allotments not meeting SRH necessary for healthy fisheries and wildlife.
-aspen/juniper woodlands	Proposed prescribed burns in four pastures would decrease structure and cover habitat for mule deer, elk and several songbird species in the short-term. In the long-term following burns, grassland habitats would be enhanced by improving forage for elk, mule deer and pronghorn antelope. Wildlife habitat would also be improved by providing a mosaic of habitat conditions for a diversity of species.	- A slight increase in wildfire potential would occur with the increased amount of fine fuels present as livestock are removed in 24 pastures that would be scheduled for a minimum 3 years of non-use by livestock. Fires in 8 pastures would decrease structure and cover habitat for mule deer, elk and several songbird species in the short-term. - In the long-term following burns grassland habitats would be enhanced by improving forage for elk, mule deer and pronghorn antelope. Wildlife habitat would also be improved by providing a mosaic of habitat conditions for a diversity of species. - Aspen communities would not improve in 2 pastures where livestock would be removed for a minimum of 3 years due to high elk populations. Elk would likely increase their aspen consumption proportionate to the reduction in livestock use.	- Mountain shrub communities important to wildlife would remain in unsatisfactory condition caused by the current grazing season of use. - Currently only 15 pastures have wildlife objectives identified in allotment management plans. - 13 pastures have decadent crested wheatgrass seedings or locked-in annual rangelands that are in poor condition as big game winter range.
- riparian areas	- moderate wildlife habitat improvement in the short- and long-term due to increased woody vegetation and longer availability of surface water in some drainages.	- Livestock use in 18 pastures with riparian vegetation would be suspended for a minimum of 3 years. This would result in a short-term increase in growth of woody vegetation and residual cover enhancing the habitat for big game and songbird use. In the long-term, the slight improvement to the riparian habitat would continue.	- Riparian areas currently not in PFC or in an upward trend would not provide potential habitat for wildlife.

	ALTERNATIVE A - PROPOSED ACTION	ALTERNATIVE B - SUSPENDED USE	ALTERNATIVE C - NO ACTION
- special status wildlife	-Slight to moderate improvement of spotted frog, redband trout and bald eagle habitat in the short-term and moderate habitat improvement in the long-term from improved water quality and quantity. - Moderate benefit to sage grouse habitat from: deferment of cattle into pastures with leks until after the courtship period; maintaining 7-9 inches of herbaceous cover within 2 miles of leks; and prescribed fire removing encroaching juniper trees from nesting and brood rearing habitats in 3 pastures. - Slight to no adverse impact to sage grouse winter habitat where sagebrush would be removed to enhance old seedings or reseeding of annual rangelands.	Same as Alternative A except: - 3 years of non-use in 6 pastures within 2 miles of sage grouse leks would improve vigor of existing grasses and forbs enhancing protection of grouse nests from predators. - Potential for increased fire from the buildup of fine fuels with a minimum 3 year exclusion of cattle would reduce juniper encroachment in these same 6 pastures resulting in slight to moderate habitat improvement.	- In the 12 pastures currently managed with objectives with objectives to maintain or improve riparian resources, species dependent on riparian and aquatic habitats would continue to benefit from management actions. The 44 newly identified riparian pastures would not have management objectives developed and would continue to be impacted by current grazing objectives that do not recognize riparian values. -18 pastures where riparian areas FAR or in a downward trend would continue not to meet special status animal species needs. - Sage grouse nesting and brood rearing habitat would continue to decline in all pastures experiencing juniper encroachment.

	ALTERNATIVE A - PROPOSED ACTION	ALTERNATIVE B - SUSPENDED USE	ALTERNATIVE C - NO ACTION
Rangeland/Grazing Use - Rangeland Projects			
Livestock Preference	- No decrease in livestock preference.	- Suspension of livestock preference of 17,598 AUMS (41percent) a minimum of 3 years or until SRH met on 8 allotments	Same as Alternative A.
Implementation of new grazing management strategies	- All 20 allotments with landscape area have new grazing management strategies implemented.	- 12 allotments within the landscape area have new grazing management strategies implemented.	-Two to three allotments might be evaluated under the current schedule with new grazing management strategies developed.
Proposed Projects:			
-Vegetation Treatments	-16,840 acres proposed for vegetation treatment plus those to be planned for Richie Flat Allotment (source LAMP, Appendix A - Table 10) would occur.	Same as Alternative A except: - The priority of constructing projects would not be necessary until progress toward meeting SRH has been attained through livestock exclusion. The proposed projects may not be valid following the exclusion period and would need to be reevaluated based on current resource needs.	Same as Alternative A except the proposed projects would occur later in time.
- Water Developments	-1 windmill constructed, 8 new pipelines/springs constructed, 4 pipeline/springs maintained		
- Fence Construction	- 19 miles of fence constructed plus Willow Creek fence, and 7 exclosures constructed where springs empty into reservoirs.		

	ALTERNATIVE A - PROPOSED ACTION	ALTERNATIVE B - SUSPENDED USE	ALTERNATIVE C - NO ACTION
Recreational and Visual Resources	-No short-term impacts to recreation resources or uses. As habitat conditions improve wildlife populations may grow enhancing long-term recreation opportunities.	Same as Alternative A except: -Suspension of livestock use in 8 allotments (24 pastures) encompassing 120,371 acres would enhance the quality of a recreational experience for those who desire not to have their activities influenced by the presence and affects of livestock use. - Within riparian and aspen areas affected by a minimum 3 year livestock suspension of use, recreational opportunities such as hunting and camping would be enhanced.	- Under this alternative, enhancement of recreation uses and opportunities would take the greatest period of time if accomplished at all. Improvement to dispersed recreation-dependent resources and habitat conditions would be dependent on the rate developing/updating and implementing individual AMPs. Any enhancement of recreational opportunities would occur sporadically with no continuity or connectiveness within the landscape area.
	-Visual resources such as visual quality would be enhanced as habitats conditions improve which currently are not functioning properly. Visual impacts from vegetative manipulations would be the greatest under this alternative since the largest number of acres for treatment are proposed.	-Visual resource values such as scenic quality would be enhanced at an accelerated rate when compared to Alternatives A and C with the suspension of livestock use for a minimum of 3 years. This would be particularly apparent within riparian corridors and aspen communities. Visual impacts from vegetative manipulations would fall into a range between Alternatives A and C.	-Visual resource values would be enhanced at the slowest rate under this alternative. Improvement of visual quality in riparian and aspen communities would be sporadic and disjointed. Visual impacts from vegetative manipulations would be the least under this alternative and be less evident through time.

	ALTERNATIVE A - PROPOSED ACTION	ALTERNATIVE B - SUSPENDED USE	ALTERNATIVE C - NO ACTION
Special Management Areas			
- Wilderness Study Areas, Wild and Scenic Rivers	- No projects are planned for FY1999 within the Beaver Dam Creek WSA. Proposed future projects would need NEPA analysis completed prior to implementation. T'is would determine if additional analysis would be necessary to meet NEPA and Interim Management Policy (IMP) for Land Under Wilderness Review requirements. Prescribed burns completed in compliance with the IMP could enhance the health of ecological diversity as an identified wilderness value in the Beaver Dam Creek WSA. - There would be no impact to outstandingly remarkable values associated with the South Fork Indian Creek study stream with implementation of this alternative.	Same as Alternative A.	Same as Alternative A.
ACEC's and RNA's	-No impact.	Same as Alternative A.	Same as Alternative A.
Socio-Economic Values	-Little to no impact.	- The suspension of livestock use would negatively affect 12 operators and 45 percent of the landscape area. Under this alternative some livestock operators could go out of business.	Same as Alternative A.

	ALTERNATIVE A - PROPOSED ACTION	ALTERNATIVE B - SUSPENDED USE	ALTERNATIVE C - NO ACTION
Cultural Resources	- The reduction in soil erosion and fencing and reduced use of riparian areas would benefit cultural resources by maintaining site conditions.	Same as Alternative A except: - There would be a temporary reduction in impacts to cultural resources from the minimum 3 year suspension of livestock grazing. Vegetation growth and cover would reduce the visibility of sites and decrease the effects of wind and soil erosion to cultural sites.	- Cultural resource sites would continue to be negatively impacted by soil and wind erosion and continued heavy livestock use in riparian areas.
Paleontology	Unknown impact.	Same as Alternative A.	Same as Alternative A.
Access	Four roads (553, Gregory, Pole Creek and Spring Road) have been identified for the acquisition of non-exclusive easements.	Same as Alternative A.	Same as Alternative A.

Finding of No Significant Impact

On the basis of the information contained in this Environmental Assessment (OR-030-99-19) and all other information available, it is my determination that none of the alternatives constitutes a major federal action significantly affecting the quality of the human environment and that an Environmental Impact Statement is not required.

Authorized Officer
Field Manager, Malheur Resource Area

Date

U.S. GOVERNMENT PRINTING OFFICE: [illegible] — [illegible] / [illegible] Region No. [illegible]

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